DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
Fort Monroe, Virginia 23651-5000

TRADOC Regulation
No. 350-29

31 December 1987

Training
# PREVENTION OF HEAT AND COLD CASUALTIES

Supplementation of this regulation is permitted. However, proposed supplements must be submitted to HQ TRADOC, ATTN: ATTG-I, for approval.


| | Paragraph | Page |
|---|---|---|
| Purpose | 1 | 1 |
| Applicability | 2 | 1 |
| Responsibility | 3 | 1 |
| General | 4 | 1 |
| Recognition and treatment | 5 | 2 |
| Heat injury prevention | 6 | 4 |
| Cold injury prevention | 7 | 7 |
| Evacuation | 8 | 9 |
| Reporting | 9 | 9 |
| References | 10 | 9 |

APPENDIX A. SAMPLE HEAT INJURY PREVENTION CARD..... A-1
B. SAMPLE COLD INJURY PREVENTION CARD..... B-1
C. SAMPLE WIND CHILL CARD..... C-1


1. Purpose. To prescribe policy and provide guidance to assist commanders in preventing heat and cold injuries.

2. Applicability. This regulation applies to all Active Component (AC) and Reserve Component (RC) training conducted at service schools, Army training centers (ATC), or other training activities under the control of HQ TRADOC,

3. Responsibility. Commanders and supervisors at all levels are responsible for protecting soldiers and civilian personnel from heat and cold injury,

4. General. Extremes in weather conditions pose additional problems to our training efforts and increase the risk of heat and cold injury, Successfully preventing climatic casualties depends largely on educating personnel and applying methods to reduce exposure. Additionally, to prevent heat and cold

injuries, commanders must develop procedures to alert individuals of heat stress and windchill conditions and adopt techniques to reduce the susceptibility of personnel to climatic injury.

5. Recognition and treatment. Commanders and supervisors must ensure every individual who may be exposed to unaccustomed environmental conditions is informed of the potentially serious results of climatic injuries and how to recognize and treat those injuries if they occur. The U.S. Army Training and Audiovisual Support Center (TASC) has available for use pocket-size guides for identification, first aid treatment, and preventive measures for heat (GTA 8-5-45 (appendix A)) and cold (GTA 8-6-12 (appendix B)) injuries.

a. Heat injuries that commanders should be particularly concerned with include heat cramps, heat exhaustion, and heat stroke. The symptoms and treatments for these heat injuries are listed below.

(1) Heat cramps. Heat cramps result primarily from excessive loss of salt from the body. This condition occurs when individuals who have been actively sweating don't replace the salt lost in their sweat.

(a) Symptoms. Painful contraction of muscles (normally the extremities and abdominal muscles). Body temperature is normal unless heat cramps are accompanied by heat exhaustion.

(b) Treatment. Heat cramps are promptly relieved by replacing the salt lost from the body. Move victims to a shaded area, loosen their clothing, and make them slowly drink at least one canteen of salted water (l/4 teaspoon of salt per quart of water). If salt is not available, use plain water.

(2) Heat exhaustion. Heat exhaustion occurs as a result of excessive loss of water and salt from the body.

(a) Symptoms. Profuse sweating, headache, tingling sensations, paleness of skin, shortness of breath, palpitations, trembling, nausea, and vomiting. The skin will be moist and cool; the pulse will be rapid; and the body temperature will be normal or slightly below normal. Individuals with heat exhaustion may also act slightly confused or may momentarily lose consciousness.

(b) Treatment. Move victims of heat exhaustion to a shaded area, loosen their clothing, and elevate their feet to promote the return of blood to their heart. Make them drink at least one canteen of salted water (1/4 teaspoon of salt per quart of water). Recovery is usually prompt. However, individuals suffering from heat exhaustion will be assigned to light duty for 24 to 48 hours following their recovery.

(3) Heat stroke. HEAT STROKE IS A MEDICAL EMERGENCY WITH A HIGH MORTALITY RATE. This condition, caused by overexposure to the sun or heat, results from a breakdown of the body's ability to control its temperature.

(a) Symptoms. Extremely high body temperature, sudden loss of consciousness, convulsions, delirium, headache, dizziness, weakness, and nausea, Sweating is absent in the typical case, and the skin is hot, dry, and flushed. Pulse and respiration are rapid.

(b) Treatment. Lowering the victim's body temperature as rapidly as possible is the most important objective in the treatment of heat strokes. Remove the patient's clothes, and, if any source of cool water or ice is nearby, immerse the victim in it. Otherwise, sprinkle water over the patient and fan the patient to hasten the water evaporation. Transport victims of heat stroke to the nearest medical facility as soon as possible. While awaiting transportation, keep patients in the shade with their feet elevated. If they are conscious, make them drink at least one canteen of salted water (1/4 teaspoon of salt per quart of water). Continue efforts to reduce body temperature while transporting victims.

b. Cold injuries are classified as nonfreezing (trench/immersion foot/ and hypothermia) and freezing (frostbite). Symptoms and treatments for cold injuries are listed below.

(1) Trench/immersion foot. Immersion foot or trench foot is an injury that results from fairly long exposure of the feet to wet conditions at temperatures from approximately 50 to 32 degrees fahrenheit. Inactive feet in wet socks and boots or tightly laced boots impair circulation and are even more susceptible to injury. Prolonged exposure can cause the feet to swell. Pressure closes blood vessels, cuts off circulation, and can lead to loss of parts of the feet.

(a) Symptoms. Feet are cold and reddish in color and have swelling, blistering, bleeding, and numbness.

(b) Treatment. Individuals with immersion injury should elevate and rewarm their feet gradually by exposing them to warm air. Do not moisten, massage, or apply heat or ice to feet with immersion injuries. Covering the patient with several layers of warm coverings is preferable to using extreme heat. Evacuate patients as soon as possible.

(2) Hypothermia. Hypothermia is a state in which core body temperatures of individuals are below normal because they are losing heat faster than they can produce it. General cooling of the entire body to a temperature below 95 degrees fahrenheit is caused by continued exposure to low or rapidly dropping temperatures, cold moisture, snow, or ice.



(a) Symptoms. As the body cools, the following progressive

stages of discomfort and impairment occur: shivering; faint pulse; mental confusion; slurred speech; glossy eyes; slow, shallow breathing; uncoordinated movements; unconsciousness; and irregular heart beat.

(b) Treatment. Since hypothermia is a medical emergency, prompt medical treatment is necessary. The victim's body must be rewarmed with an external heat source since the victim can't generate heat. Perform cardiopulmonary resuscitation (CPR), if necessary, and keep the victim dry and protected from the elements. Evacuate the victim as soon as possible.

(3) Frostbite. Frostbite is the injury to tissue caused from exposure to below freezing temperatures. Severe frostbite can result in loss of affected body parts such as fingers, toes, hands, or feet.

(a) Symptoms. Frostbite starts with a discoloration of the skin of the nose, ears, cheeks, fingers, or toes. This is followed by a tingling sensation for a short time and then numbness. The skin may briefly appear red for light skinned individuals or greyish for dark skinned individuals and then become pale or waxy white. Upon thawing, the signs vary with the degree of injury. Mild to moderate frostbite injury appears red and swollen, has blisters, and is painful. Severe frostbite injuries have blue-black discoloration, blood filled blisters, and an absence of pain.

(b) Treatment. Remove tight clothing or boots from the injured area. Warm the frozen body part by placing it next to the skin of another person. Keep the victim warm and covered to prevent further injury. Do not massage, expose to open fire, rub with snow, or soak injuries in cold water. Evacuate the victim to a medical treatment facility as soon as possible.

6. Heat injury prevention.

a. Reference 10e contains a comprehensive discussion of heat casualty prevention. Commanders, cadre, and other responsible officers and non-commissioned officers (NCO) must be able to identify environmental conditions under which adverse effects of heat are likely to occur. The Wet Bulb Globe Temperature (WBGT) Index and the Wet Globe Thermometer (WGT) are the best means of evaluating the degree of heat stress imposed by all environments. Commanders must use at least one of these indexes during all operations in heat and take measurements in a location which is the same as, or closely approximates, the environment to which personnel are exposed.

b. Heat conditions are classified by color (green, yellow, red, and black; in increasing order of heat stress according to Botsball (WGT) and WBGT readings. Commanders must adapt training/physical activity and uniform requirements to conform with the precautions for each heat condition listed on next page.



| HEAT | BOTSBALL (WGT) | WBGT | WATER INTAKE | **ACCLI-MATIZED |
|---|---|---|---|---|

| CONDITION | INDEX F | INDEX F | QTS/HR | WORK/REST | UNACCLIMATIZED |
|---|---|---|---|---|---|
| * | <80 | <82 | 1/2 | 50/10 | Use caution in planning extremely intense physical exertion. |
| GREEN | 80-82.9 | 82-84.9 | 1/2 to 1 | 50/10 | Use discretion in planning heavy exercise. |
| YELLOW | 83-85.9 | 85-87.9 | 1 to 1 ½ | 45/15 | Suspend strenuous exercise during the first 3 weeks of training. Activities may be continued on a reduced s scale after the 2d week. Avoid activity in the direct sun. |
| RED | 86-87.9 | 88-89.9 | 1 1/2 to 2 | 30/30 | Curtail strenuous exercise for all personnel with less than 12 weeks of hot w weather training. |
| BLACK | 88 & up | 90 & up | >2 | 20/40 | Suspend physical training and strenuous exercise. Essential operational commitments (e.g., guard duty) will not be suspended. |

* Mission Oriented Protective Posture (MOPP) or body armor adds 10 degrees fahrenheit to the Botsball or WBGT index.

** An acclimatized soldier is one who has had progressive degrees of heat exposure and physical exertion for about 2 weeks. These work/rest periods do not apply to soldiers in MOPP gear or body armor.

c. The following actions, if emphasized by the commander, will reduce the risk of heat injury:

(1) Training. Give classes on heat injury recognition, treatment, and preventive measures annually to cadre and to soldiers in training. These classes will stress the causes of heat injury, the potentially serious result, first aid treatments, and the importance of water consumption in preventing heat injury. Briefings for commanders and supervisors will also include discussions on the following topics:



(a) Past experience with heat injury at the installation.

(b) The need for acclimatization and careful scheduling of

physical activities.

(c) The recognition of personnel who are at increased risk of heat injury (e.g., those with prior heat injury, current illness, recent immunization, obesity, and those who take medication).

(d) Use of the WBGT and WGT indexes.

(2) Use of the buddy system. Soldiers do not always recognize or react to their own early symptoms of heat injuries. They must be taught to observe their buddies for evidence of heat stress.

(3) Acclimatization to heat. Acclimatization is acquired by working in hot environments for gradually increasing periods of time on a daily basis over a period of about 2 weeks. Schedule training programs to provide for increasingly longer periods with alternating rest periods for personnel who are climatically unseasoned to heat. Commanders must take advantage of the cooler hours of the day when it is necessary to accomplish work during the acclimatization period.

(4) Water intake. Adequate water intake is the single most important factor in avoiding heat injury. An individual subjected to high heat stress may, through sweating, lose water in excess of one quart per hour. Water loss must be replaced, preferably by periodic intake of small amounts of water throughout the work period. Thirst is not an adequate stimulus for water intake. Therefore, commanders must require soldiers to drink water to prevent dehydration. Commanders must enforce an unlimited water drinking policy, particularly during times of increased physical stress.

(5) Salt replacement. In addition to water, sodium chloride is lost in sweating. While the diet ordinarily contains an adequate amount of salt, additional salt may be provided cautiously during the first few days of exposure to heat, especially in the case of unacclimatized individuals. Salt loss tends to be greater during acclimatization than after acclimatization. Using extra salt in cooking and on the plate will meet most requirements. Avoid excessive intake of salt, since it may cause increased thirst and incapacitating nausea.

(6) Scheduling work/training. Commanders must schedule activities to fit the climate, the physical condition of personnel, and the military situation. Schedule intense physical activity during the cooler hours of the day and avoid scheduling work in direct sunlight on hot days when possible. Commanders must closely supervise their soldiers to complete training requirements with minimum hazard.



(7) Physical conditioning. The general physical condition of the individual has a significant bearing on the reaction to heat stress. The risk

of heat injury is much higher in overweight, unfit persons than in those of normal weight. Commanders must exercise special care where such persons are exposed to high temperatures. Since one attack of either heat stroke or severe heat exhaustion may predispose to a second, commanders must identify individuals who have experienced previous heat injury and exercise caution in exposing them to subsequent heat stress.

(8) Clothing. Clothing reduces the exposure of the body surface to solar radiation; however, at the same time, it decreases the movement of air over the skin. To take full advantage of its benefits and minimize its disadvantages, clothing should be loose fitting, especially at the neck and wrists. Commanders may authorize exceptions to the prescribed wear of the Battle Dress Uniform (BDU) to protect troops and maintain efficiency. During heat condition "yellow," commanders will have soldiers unblouse trousers during strenuous physical activity or exposure to heat. Commanders will require soldiers to remove their jackets during strenuous physical activity or exposure to heat in heat categories "red" and "black." However, commanders must avoid exposing soldiers to intense solar radiation for extended periods of time (>1 hour).

d. Do not use water sprays to cool down soldiers in training (except as a first aid treatment for heat stroke casualties). This does not prevent heat injuries. The temporary cooling effect achieved through spraying may in fact increase core body temperature and intensify heat injuries.

7. Cold injury prevention.

a. Prior planning and adequate training are essential to minimize cold injury casualties. Reference 10d contains a detailed discussion on proper measures for preventing cold injuries. Commanders, cadre, and other responsible officers and NCOs must be familiar with environmental conditions (such as temperature, wind, humidity, and ground surface conditions) that influence the risk of cold injury. They should know how to use the wind chill chart in table 1 of reference 1Od. A pocket size wind chill card (GTA 8-5-40 (appendix C)) is available for use through TASC.

b. Commanders must establish appropriate guidelines on training/physical activity, uniform wear, and troop support requirements to conform with the precautions for each wind chill level listed below.

| WIND CHILL (Degrees Fahrenheit) | PRECAUTIONS |
|---|---|
| 30 and below | Alert personnel to the potential for cold injury. |



| WIND CHILL (Degrees Fahrenheit) | PRECAUTIONS |
|---|---|
| 25 and below | Leaders inspect personnel for wear of cold weather clothing. |

| | |
|---|---|
| | Provide warm-up tents/areas and hot beverages. |
| 0 and below | Leaders inspect personnel for cold injuries and emphasize that buddies must also check each other. |
| | Increase the frequency of rotating soldiers exposed to wind chill conditions to warming area. |
| -20 and below | Curtail all but mission essential operations where soldiers are exposed to wind chill conditions. |

c. Effective cold injury prevention programs must include the following:

(1) Training. Give classes on cold injury recognition, first aid, and preventive measures annually to all cadre and soldiers in training.

(2) Use of the buddy system. Soldiers do not always recognize or react to their own early symptoms of cold injuries. They must be taught to observe their buddies for evidence of overexposure to cold.

(3) Clothing. The chain of command must ensure that soldiers are issued serviceable, properly fitting clothing and footgear for cold weather. Additionally, commanders must emphasize that preventing cold injuries depends on wearing clothing properly. Soldiers should be encouraged to wear as little as possible, consistent with the weather. (It is better for the body to be slightly cold and generating heat than excessively warm.) Clothing should be clean, dry, loose fitting, and worn in layers. Layering clothing provides layers of air to insulate the body and permits good circulation of the blood. Dirty clothes conduct heat more rapidly and afford less protection from the cold. Moisture causes clothing and footgear to lose their insulating qualities. Encourage soldiers to remove some layers when they are exposed to heat or performing any physical activity to prevent perspiration and subsequent chilling.

(4) Scheduling work/training. Commanders must tailor schedules to fit weather conditions by scheduling activities requiring exposure to cold as the wind chill factor increases and frequently providing warm-up breaks.



(5) Physical conditioning, The general physical condition of soldiers has a significant bearing on their susceptibility to cold injury.. Physical fatigue contributes to apathy, inactivity, personal neglect, and carelessness. These lead to loss of heat production and retention and increase the risk of cold injury. Soldiers with prior cold injuries have a higher than normal risk of subsequent cold injuries. Commanders must ensure soldiers maintain their

self-discipline in cold weather to protect themselves from cold injury, Additionally, commanders must identify soldiers with previous cold injuries and exercise caution in exposing them to hazardous wind chill conditions.

(6) Exercise. Commanders must encourage physical activity in cold weather, Activity of large muscle groups of the shoulders, trunk, and legs is required in order to generate and maintain body heat. When the situation prohibits such gross activities, frequent changes of positions; moving toes, feet, legs, fingers, arms, and hands; and, to a lesser extent, isometric contractions are less satisfactory alternatives. In such situations, some delay in heat loss can be accomplished by sitting or standing on insulating material rather than on cold or wet ground.

8. Evacuation. Commanders must establish a liberal policy of evacuation of injured personnel to the nearest medical treatment facility.

9. Reporting. In accordance with AR 40-400, commanders will use the Special Telegraphic Report RCS MED-16(R4) to report all heat and cold injuries requiring hospital admission or any significant clusters of heat or cold injuries that occur in one unit that do not require hospitalization. Commanders must furnish a copy of this report to Commander, TRADOC, ATTN: ATMD, Fort Monroe, VA 23651-5000.

10 . References.

a. Army Regulation 40-5, 1 Jun 85, Preventive Medicine.

b. Field Manual 21-10, 22 Dec 83, Field Hygiene and Sanitation.

c. Field Manual 21-11, 7 Oct 85, First Aid for Soldiers.

d. TB Med 81, 30 Sep 76, Cold Injury.

e. TB Med 507, 25 Jul 80, Occupational and Environmental Health: Prevention, Treatment, and Control of Heat Injury.

f. TRADOC Regulation 350-6, 13 Feb 87, Initial Entry Training Policies and Administration, 13 Feb 87.



## APPENDIX A

## SAMPLE HEAT INJURY PREVENTION CARD

**HEAT CRAMPS** **BASIC HEAT INJURY PREVENTION**

| SYMPTOMS | FIRST AID |
|---|---|
| Muscle cramps of the abdomen, legs or arms. | 1. Move the soldier to a shaded area and loosen clothing.<br>2. Dissolve ¼ teaspoon table salt in a (one quart) canteen of water. Have soldier slowly drink at least one canteen of this salt solution. If no salt is available, use plain water. DO NOT USE ADDITIONAL SALT. |

**HEAT EXHAUSTION**

| SYMPTOMS | FIRST AID |
|---|---|
| Profuse sweating with pale, moist and cool skin, headaches, weakness, loss of appetite, dizziness. May also have heat cramps, nausea, urge to defecate, chills, rapid breathing, tingling of the hands or feet and confusion. | 1. Move soldier to a shaded area, loosen or remove clothing; elevate legs, pour on water and fan if it is very hot.<br>2. Dissolve ¼ teaspoon table salt in a (one quart) canteen of water. Have the soldier slowly drink at least one canteen of this salt solution. If no salt is available, use plain water. DO NOT USE ADDITIONAL SALT. |

**HEATSTROKE**

| SYMPTOMS | FIRST AID |
|---|---|
| Headache, dizziness, stomach pains, confusion, weakness, may Suddenly lose consciousness, and may have seizures; skin is hot and may be dry; pulse and respiration are rapid and weak. Heatstroke is a medical emergency. | 1. Immerse in water or pour water on and fan.<br>2. Transport to the nearest medical treatment facility at once.<br>3. While awaiting or during transport move to a shaded area, remove clothing and boots, elevate legs; continue pouring on water and fanning; massage the skin. If conscious, have him drink the salt water as described under Heat Exhaustion. DO NOT USE ADDITIONAL SALT. |

1. Consider water a tactical weapon. Reduce heat injury by forcing water consumption.

2. When possible, provide cooled water (50F to 60F) to enhance its taste and increase voluntary water consumption.

3. Drink one quart of water in the morning, at each meal, and before and during hard or strenuous work.

4. Take frequent drinks since they are more effective than drinking the same amount all at once. Larger soldiers need more water

5. The use of salt tablets for replacement of salt lost through sweating is not recommended. An adequate salt intake is best achieved by eating three salt-seasoned meals per day.

6. When possible, schedule heavy workloads for the cooler hours of the day such as early morning or late evening.

7. Give frequent rest periods. Lower the workrate and workloads as the heat condition increases.

8. When possible, workloads and/or duration of physical exertion should be less during the first days of exposure to heat: then they should be gradually increase to allow acclimatization.

## APPENDIX B

## SAMPLE COLD INJURY PREVENTION CARD

GTA 8-6-12
AUGUST 1985

**ADVERSE EFFECTS OF COLD**
**CAUSE AND SYMPTOMS**

**FREEZING INJURY (FROSTBITE).**
a. Cause: EXPOSURE TO BELOW FREEZING TEMPERATURES,

COMMONLY ASSOCIATED WITH DAMP CLOTHING OVER THE INVOLVED BODY PART.

b. Symptoms: Skin is waxy, white/gray and numb while frozen. Upon thawing, the signs vary with the degree of injury as follows:

1. Mild-Moderate: Redness, swelling, clear blisters, pain.
2. Severe: Blue-black discoloration, blood-filled blisters, early absence of pain.

**NONFREEZING ("TRENCH FOOT," "IMMERSION FOOT").**

a. Cause: PROLONGED EXPOSURE TO COLD (USUALLY 32o -50o F) AND WETNESS.

b. Symptoms: Redness, swelling, blistering, bleeding, numbness.

SEE REVERSE FOR PREVENTION AND FIRST AID

HEADQUARTERS, DEPARTMENT OF THE ARMY

**PREVENTION**

**TO KEEP WARM REMEMBER THE WORD C-O-L-D**

**C – Cleanliness and Care –** Feet, socks, and clothing are warmer when clean. Proper care of the feet is imperative.

**O -- Overheating –** Wearing too much clothing causes overheating, perspiration, dampness and coldness.

**L -- Layers and Looseness –** Clothing in loose layers assures air spaces which hold body heat. Adjust the number of layers to the temperature and activity. Loose-fitting clothing insures circulation and insulation.

**D -- DAMPNESS –** A wet garment is a cold garment. Wear the field jacket as a windbreaker and to repel water.

**FIRST AID TREATMENT**

Get off your feet, change to warm, dry clothing, and seek medical assistance. DO NOT RUB, AND DO NOT USE SNOW.

**SEE REVERSE FOR CAUSE AND SYMPTOMS**

DISTRIBUTION: US Army Training and Audiovisual Support Center (TASC).



## APPENDIX C
## SAMPLE WIND CHILL CARD

HOW TO USE THE WIND CHILL CHART

Find the windspeed in the left-hand column, then read across to the column under the actual temperature. This number is the equivalent temperature which would be acting on any exposed skin. For example, if the wind is

blowing at 20 mph (32 kph) and the actual temperature is 10° F (-12° C), the effect on bare skin would be the same as a temperature reading of -25° F (-32° C) under calm conditions. Any movement has the same cooling effect as the wind. Running, skiing, or riding in an open vehicle must be considered in using the wind chill chart.

* GPO : 1983 0 - 417-503

The proponent for this regulation is the Office of the Deputy Chief of Staff for Training. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications) through channels to Cdr, TRADOC, ATTN: ATTG-I, Fort Monroe, VA 23651-5000.

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# Mission Risk Assessment Worksheet
# EXAMPLE



| 1. Unit: | 2. Prepared by: (Rank/Last name/Duty Position | 3. DTG Prepared: |
|---|---|---|
| 4. Mission/Task: | | 5. DTG Begin<br>DTG End: |
| 6. Leader Task (If applicable): | 7. Individual Task (If applicable): | |

| 8. Hazards | 9. Initial Risk Level* | 10. Controls | 11. Residual Risk Level* | 14. How to Implement | 15. How to Supervise | 16. Controls Effective ? |
|---|---|---|---|---|---|---|
| Soldier not familiar with task. | | Prior task training on weapons and range operations. Safety briefing prior and at training site. | | Sop's, Rehearsals, AR 385-63 USASC&FG 210-21 | Commander, OIC/RSO | |
| Soldier may become disoriented to their sector of fire. | | OIC/RSO will place each soldier on the firing line and ensure each soldier knows his or her sector of fire. | | Sop's, Rehearsals, AR 385-63 USASC&FG 210-21 | OIC/RSO | |
| Soldiers may loss their footing while moving on or off the firing. | | Soldiers will rehearse movement on and off range, be briefed to move carefully, and be lead on and off range by the RSO. Leaders will recon range prior to occupying. | | Sop's, Rehearsals, AR 385-63 USASC&FG 210-21 | OIC<br>RSO | |
| Weapons not being cleared as soldiers move off firing line | | RSO will inspect all weapons prior to soldier moving off firing line. | | Sop's<br>Rehearsal<br>USASC&FG 210-21 | OIC<br>RSO | |
| Clearing malfunctions and stoppages by soldiers | | Soldier will perform immediate action to clear stoppage. RSO will be on site to handle major malfunctions. | | Same as above | Same as above | |
| Removal of brass or live rounds from range by soldiers in training | | All soldiers will be inspected prior to moving off range. | | Same as above | Same as above | |

| 12. Overall risk level after controls are implemented (Circle one or High Light) | 13. Risk Decision Authority: (Rank/Last Name/Duty Position) | DTG and Signature |
|---|---|---|
| LOW **MODERATE** HIGH EXTREMELY HIGH | | |

# APPENDIX D

# ALTERNATE REVOLVER QUALIFICATION COURSE

**D-1. PROCEDURES**

Once the soldier completes instructional firing, he must then fire the CPQC for record. If the CPQC is not available, then the soldier may fire the ARQC.

**NOTE: The tower operator controls all reloading.**

a. Procedures for Firing ARQC With the Caliber .38 Revolver.

(1) Table 1: Engage the 25-meter E-type silhouette target with rings from the standing position with six rounds of ammunition; given six rounds for the caliber .38 revolver on a 25-meter range during daylight. Within 21 seconds from the standing position, engage the E-type silhouette target (see Figure B-1).

(2) Table 2: Engage the 25-meter target from the kneeling position with 12 rounds; given 12 rounds of ball ammunition and a caliber .38 revolver on a 25-meter range during daylight. Within 23 seconds from a standing position, assume a good kneeling position and engage the target with six rounds. Repeat steps for next six rounds.

(3) Table 3: Engage the 25-meter target from the crouch position with 12 rounds; given 12 rounds of ball ammunition and a caliber .38 revolver on a 25-meter range during daylight. Within 23 seconds from a standing position, assume a good crouch position and engage the target with the first six rounds within 23 seconds. Repeat steps for next six rounds.

(4) Table 4: Engage the 25-meter target from the prone position with 10 rounds; given 10 rounds of ball ammunition and a caliber .38 revolver on a 25-meter range during daylight hours. Within 23 seconds from a standing position, assume a good prone position, and engage the target with the first six rounds. Repeat steps for next four rounds, allowing only 18 seconds.

b. Firing Revolver Under Night Conditions. Engage the 25-meter target from a crouch position with 30 rounds; given 30 rounds of ball ammunition and a caliber .38 revolver on a 25-meter range during nighttime conditions. Within 60 seconds, engage six pop-up E-type silhouettes with six rounds. Reload only on command from the tower. Repeat steps for next 24 rounds.

c. Firing Revolver Under Simulated NBC Conditions. Engage the 25-meter target from a crouch position with 20 rounds; given 20 rounds of ball ammunition and a caliber .38 revolver on a 25-meter range under simulated NBC conditions during daylight. Within 40 seconds, engage the 25-meter pop-up target with six rounds. Reload only on command from the tower. Repeat steps for next 14 rounds.

**NOTE: Night and NBC qualification is required IAW DA Pam 350-38.**

**D-2. CONDUCT OF FIRE**

a. The following commands outline a step-by-step sequence for conducting range firing on the ARQC.

(1) Table 1: Standing position.

(a) The tower operator orders firers to move to the firing line and to prepare to fire. The caliber .38 rounds are issued to the scorer and given to the firer on command.

(b) The tower operator commands:

TABLE ONE, STANDING POSITION, SIX ROUNDS.

LOAD.

IS THE LINE READY?
THE FIRING LINE IS READY.
FIRERS, WATCH YOUR LANE!

(c) At the end of prescribed firing time, the tower operator commands:

CEASE FIRE.
ARE THERE ANY ALIBIS?

(Allowable alibis are given two seconds for each round not fired.)

**NOTE: For more information, see paragraph C-3.**

UNLOAD AND CLEAR ALL WEAPONS.
IS THE FIRING LINE READY?
THE FIRING LINE IS NOW CLEAR.
FIRERS AND SCORERS MOVE DOWNRANGE AND CHECK YOUR TARGETS.

(All weapons are cleared and left on table, or they are left at the firing line with the cylinder in the open position.)

FIRERS AND SCORERS MOVE DOWNRANGE AND
CHECK YOUR TARGETS.

(2) Table 2: Kneeling position.

(a) The tower operator orders firers to move to the firing line. Scorers are issued 12 rounds of caliber .38 ammunition to be given to the firer on command.

(b) The tower operator commands:

TABLE TWO, KNEELING POSITION, TWELVE ROUNDS;
FIRST SIX ROUNDS, TWENTY-THREE SECONDS;
RELOAD, SECOND SIX ROUNDS, TWENTY-THREE SECONDS.
LOAD FIRST SIX ROUNDS.
IS THE LINE READY?
THE FIRING LINE IS READY.
FIRERS, WATCH YOUR LANE!

(c) At the end of prescribed firing time, the tower operator commands:

CEASE FIRE.
ARE THERE ANY ALIBIS?
UNLOAD AND CLEAR ALL WEAPONS.
LOAD SECOND SIX ROUNDS.
IS THE LINE READY?
THE FIRING LINE IS READY.
FIRERS WATCH YOUR LANE!

(d) At the end of prescribed firing time, the tower operator commands:

CEASE FIRE.
ARE THERE ANY ALIBIS?

**NOTE: Allowable alibis are given two seconds for each round.**

UNLOAD AND CLEAR ALL WEAPONS.
IS THE FIRING LINE CLEAR?
THE FIRING LINE IS NOW CLEAR.
FIRERS AND SCORERS MOVE DOWNRANGE AND CHECK YOUR TARGETS.

**NOTE: All weapons are cleared and left on a table, or they are left standing at the firing line with the cylinder in the open position. Then the firers and scorers move downrange to check their targets.**

(3) Table 3: Crouch position.

(a) The tower operator orders the firers and scorers to move to the firing line. The scorers are issued 12 rounds of caliber .38 ammunition to be given to the firer on command.

(b) The tower operator commands:

TABLE THREE, CROUCH POSITION, TWELVE ROUNDS;
FIRST SIX ROUNDS, TWENTY-THREE SECONDS;
RELOAD, SECOND SIX ROUNDS, TWENTY-THREE SECONDS.

**NOTE: All commands are the same as for Table 2.**

(4) Table 4: Prone position.

(a) The tower operator orders the firers to move to the firing line. The firers are issued 10 rounds of caliber .38 ammunition.

(b) The tower operator orders:

TABLE FOUR, PRONE POSITION, TEN ROUNDS;
FIRST SIX ROUNDS, TWENTY-THREE SECONDS RELOAD, NEXT FOUR ROUNDS, EIGHTEEN SECONDS.

**NOTE: All commands are the same as for Tables 1, 2, and 3. The scorers and firers replace all targets for the next firing order. Excess ammunition at then end of the course is turned in to the ammunition point.**

b. The commands for the revolver night fire for record are as follows:

(1) The tower operator orders firers to move to the firing line. Scorers are issued 30 rounds to be given to the firer on command.

(2) The tower operator commands:

NIGHT FIRE, CROUCH POSITION, SIXTY SECONDS, SIX ROUNDS.
RELOAD ONLY ON COMMAND.
LOAD FIRST SIX ROUNDS.
IS THE FIRING LINE READY?
THE FIRING LINE IS READY.
FIRERS, WATCH YOUR LANE.

(3) At the end of the prescribed time, the tower operator commands:

CEASE FIRE
ARE THERE ANY ALIBIS?

(Alibis are allowed 10 seconds for each round not fired.)

UNLOAD AND CLEAR ALL WEAPONS.

**NOTE: These commands are repeated for each six rounds fired.**

IS THE FIRING LINE CLEAR?
THE FIRING LINE IS CLEAR.
FIRERS AND SCORERS, MOVE DOWNRANGE AND CHECK YOUR TARGETS.

c. The commands for the revolver NBC fire for record are as follows:

(1) The tower operator orders firers to move to the firing line. Scorers are issued 20 rounds to be given to the firer on command.

(2) The tower operator commands:

GAS (Firers don protective masks.)
NBC FIRING, CROUCH POSITION, FORTY SECONDS, SIX ROUNDS.
RELOAD ONLY ON COMMAND.
LOAD FIRST SIX ROUNDS.
IS THE FIRING LINE READY?
THE FIRING LINE IS READY.
FIRERS, WATCH YOUR LANE.

(3) At the end of the prescribed time, the tower operator commands:

CEASE FIRE.
ARE THERE ANY ALIBIS?

(Alibis are allowed eight seconds for each round not fired.)

UNLOAD AND CLEAR ALL WEAPONS.

**NOTE: These commands are repeated for each six rounds fired.**

IS THE FIRING LINE CLEAR?
THE FIRING LINE IS NOW CLEAR.

(The tower operator also gives the command, ALL CLEAR.)

FIRERS AND SCORERS, MOVE DOWNRANGE AND CHECK YOUR TARGETS.

(All weapons are left on firing line with cylinders open.)

**NOTE: The scorers and firers replace all targets for the next firing order. Excess ammunition at the end of a table is turned in to the scorer and is not used by the firer in subsequent tables. At the completion of all four tables, ammunition is turned in to the ammunition point.**

**D-3. ALIBIS**

If a malfunction of the weapon or the target occurs during firing, the scorer reports and records the malfunction. The firer is allowed one alibi at the completion of each table. All alibis are fired from the position in which the alibis occurs. Firing commands that apply are used to fire alibis.

**D-4. SCORING**

a. The firer is scored on the number of target hits during the prescribed time limit. He must achieve at least 24 hits and a score of 80 points to qualify. The target hits are then multiplied by the number inside the scoring rings to achieve a score. No credit is given for rounds fired after the command, CEASE FIRE. Shots that touch the next higher scoring ring are scored the next higher value (see Figure B-1).

b. The qualification scores are:

Expert - 160 to 200.
Sharpshooter - 120 to 159.
Marksman - 80 to 119.
NBC and Night Firing is done on a GO/NO-GO scoring system and recorded in the remarks column.
NBC 7 target hits = GO.
Night: 5 target hits = GO.

**NOTE: For sample scorecard see Figure D-1.**

c. Coaching is allowed during instructional firing but not during record fire. No one may assist the firer while he is taking position or after taking position at the firing point except for safety reasons.

Figure D-1. Example of completed Alternate Revolver Qualification Course form.

**NOTE: See Appendix F for a blank copy of this form for local reproduction.**

# APPENDIX C

# REVOLVER QUALIFICATION COURSE

**C-1. COURSE INFORMATION**

a. The CPQC is used for both pistols and revolvers. This appendix outlines its use with revolvers only (for use with pistols see Appendix A). The CPQC requires the soldier to engage single and multiple timed targets at various ranges using the fundamentals of quick fire. If a CPQC is not available, training and qualification may be conducted using the standard 25-meter range and the ARQC (see Appendix D).

**NOTE: For range design and layout of the CPQC, see FM 25-7.**

b. For each table of the RQC, the firer is afforded extra rounds to reengage targets that are missed. During the course 30 targets are presented to the firer; however, the firer is given 40 rounds to engage these targets. A firer who can successfully reengage the target with a second round during the exposure time is just as effective as a firer who hits the target with the first round. The firer is not penalized for using or not using the extra rounds he is allocated. All excess ammunition is turned in at the end of each table and is not used for subsequent tables.

c. All reloads will be controlled by the tower operator. If the firer fails to engage a target within the timed exposure, that target is scored as a miss. This teaches him to quickly apply the fundamentals of pistol marksmanship under stress.

d. The range to exposed targets does not exceed 31 meters from the firer. Target exposure times are as follows

(1) Tables I, II, and III:

(a) Single targets -----three seconds.

(b) Multiple targets-----five seconds.

(2) Tables IV and V:

(a) Single targets-----two seconds

(b) Multiple targets-----four seconds.

**C-2. FIRING THE RQC**

**NOTE. Target sequence is decided by the tower operator, but is the same for all lanes to prevent firers from getting in front of other firers in adjoining lanes. Targets will vary in distance to the firers, starting at 31 meters and allowing no more than two 7-meter targets.**

a. Qualification tables are as follows:

(1) Table I: The revolver is loaded with six rounds. The standing position is assumed at the firing line with the weapon in the ready position. Four targets are exposed. The tower operator controls the reloading of the last round, followed by the exposure of the last target. Firers are reminded before the beginning of the table that they will have only seven rounds for five targets.

(2) Table II: The revolver is loaded with six rounds. Two single and one set of multiple targets are exposed before reloading is conducted under control of the tower operator. The remaining two rounds are loaded,

and the last two single targets are exposed. The firer is advised before the start of the table that he will only have eight rounds with which to engage the six targets. Firers assume the same position as Table I.
(3) Table III: The revolver is loaded with six rounds. One single and one set of multiple targets are exposed, followed by the reloading of the last round under the control of the tower operator. The remaining two single targets are then exposed to the firer. Firers are reminded before the start of the table that they will have seven rounds to engage five targets.
(4) Table IV: The revolver is loaded with five rounds. Two single and one multiple target are exposed to the firer. No reloading takes place in this table.
(5) Table V: Firers are given 13 rounds. Ten targets are exposed throughout the table. The firer begins 10 meters behind the firing line in the middle of the trail.
(a) Six rounds are loaded into the revolver.
(b) When the firer reaches the firing line, a single target is exposed for two seconds, then lowered if not hit.
(c) One set of multiple targets is exposed to the firer. The firer is allowed four seconds to engage the targets. If targets are not engaged, they are scored a miss.
(d) When the tower operator has controlled reloading, he gives the command, MOVE OUT, and exposes two sets of multiple targets at various ranges from the firer.
(e) When the tower operator has controlled reloading, he gives the command, MOVE OUT, and the remaining targets are presented in sequence. After the last targets are hit or lowered, the weapon is cleared.
(f) The firer, holding the weapon in the raised position with the cylinders open, returns to the starting point and places the weapon on the stand. Excess ammunition (if any) is turned in to the ammunition point. The next order moves to the firing line.
b. The same course is fired for night qualification. It is scored on a GO/NO-GO scoring system: five target hits equal a GO. Ten seconds are allowed for each round.
c. The same course is fired for NBC qualification. It is based on a GO/NO-GO scoring system: seven target hits equal a GO. Ten seconds are allowed for each round.
**NOTE: Night and NBC qualification is required IAW DA Pam 350-38.**

**C-3. CONDUCT OF FIRE**

When the weapon is being fired firers are issued the number of rounds required to fire a specific table. The tower operator controls all loading and reloading. The following list of commands outlines a step-by-step sequence for conducting range firing on the RQC.
a. Table I.
(1) The tower operator orders firers to move to the firing line in preparation for firing. The tower operator orders firers to position themselves next to the weapon stands and secure their weapons. Seven rounds are issued to scorers to be given to firers.
(2) The tower operator commands:

TABLE ONE, SEVEN ROUNDS.
LOAD SIX ROUNDS.
READY ON THE RIGHT.
READY ON THE LEFT.
READY ON THE FIRING LINE.
WATCH YOUR LANE.

(3) The tower operator exposes two single targets to the firers. Once these targets have been engaged or lowered, the tower operator commands:

CEASE FIRE.
LOAD REMAINING ROUND. (Tower allows appropriate time.)
READY ON THE RIGHT.
READY ON THE LEFT.
READY ON THE FIRING LINE.
WATCH YOUR LANE.

(4) The tower operator exposes remaining three single targets to the firers. When all targets have been engaged or lowered, the tower operator commands:

CEASE FIRE.
CLEAR ALL WEAPONS.
CLEAR ON THE RIGHT.
CLEAR ON THE LEFT.
THE FIRING LINE IS CLEAR.

FIRERS PLACE YOUR WEAPONS ON THE STANDS.
(Leave cylinders open.)

b. Table II.

(1) The tower operator orders firers to secure their weapons. Eight rounds are issued to the scorers to be given to the firers.

(2) The tower operator commands:

TABLE TWO, EIGHT ROUNDS.
LOAD SIX ROUNDS.
READY ON THE RIGHT.
READY ON THE LEFT.
READY ON THE FIRING LINE.
WATCH YOUR LANE.

(3) The tower operator exposes four single targets to the firers. When these targets have been engaged or lowered, the tower operator commands:

CEASE FIRE.
LOAD TWO REMAINING ROUNDS. (Tower allows appropriate time.)
READY ON THE RIGHT.
READY ON THE LEFT.
READY ON THE FIRING LINE.
WATCH YOUR LANE.

(4) The tower operator exposes one set of multiple targets to firers. Once these targets have been engaged or lowered, the tower operator commands:

CEASE FIRE.
CLEAR ALL WEAPONS.
CLEAR ON THE RIGHT.
CLEAR ON THE LEFT.
THE FIRING LINE IS CLEAR.
FIRERS, KEEP YOUR WEAPONS POINTED UP AND
DOWN RANGE, MOVE TO THE FIRING POINT
TO YOUR RIGHT.

c. Table III.

(1) The tower operator orders the firers to position themselves next to the weapon stands and secure their weapons Seven rounds are issued to the scorers to be given to the firers.

(2) The tower operator commands:

TABLE THREE, SEVEN ROUNDS.
READY ON THE RIGHT.
READY ON THE LEFT.
READY ON THE FIRING LINE.
WATCH YOUR LANE.

(3) The tower operator exposes three single targets to the firers. When all targets have been engaged or lowered, the tower operator commands:

CEASE FIRE.
LOAD REMAINING ROUND. (Tower allows
appropriate time.)
READY ON THE RIGHT.
READY ON THE LEFT.
READY ON THE FIRING LINE.
WATCH YOUR LANE.

(4) The tower operator exposes one set of multiple targets to the firers. When all targets have been engaged or lowered, the tower operator commands:

CEASE FIRE.
CLEAR ALL WEAPONS.
CLEAR ON THE RIGHT.
CLEAR ON THE LEFT.
THE FIRING LINE IS CLEAR.

FIRERS, PLACE YOUR WEAPONS ON THE STAND.
(Leave cylinders open.)

d. Table IV.

(1) The tower operator orders the firers to secure their weapons from the weapon stand and move to the center of the trail. Scorers are issued five rounds to be given to the firers.

(2) The tower operator commands:

TABLE FOUR, FIVE ROUNDS.
LOAD FIVE ROUNDS.
READY ON THE RIGHT.
READY ON THE LEFT.
READY ON THE FIRING LINE.
WATCH YOUR LANE.

(3) The tower operator exposes two single targets and one set of multiple targets to the firers. When all targets have been engaged or lowered, the tower operator commands:

CEASE FIRE.
CLEAR ALL WEAPONS.
CLEAR ON THE RIGHT.
CLEAR ON THE LEFT.
THE FIRING LINE IS CLEAR.
FIRERS, PLACE YOUR WEAPONS ON THE STANDS
TO THE REAR OF THE FIRING LINE.
(Leave cylinders open.)

e. Table V.

(1) The tower operator orders the firers to secure their weapons. Scorers are given 13 rounds to be given to the firers.

(2) The tower operator commands:

TABLE FIVE, THIRTEEN ROUNDS.
LOAD SIX ROUNDS.
READY ON THE RIGHT.
READY ON THE LEFT.
READY ON THE FIRING LINE.
WEAPONS AT THE READY POSITION.
WATCH YOUR LANE.
MOVE OUT.

(3) The tower operator exposes one single target, then one set of multiple targets to the firers. Once the targets have been engaged or lowered, the tower operator commands:

CEASE FIRE.
RELOAD CHAMBERS. (Tower operator allows
appropriate time.)
READY ON THE RIGHT.
READY ON THE LEFT.
READY ON THE FIRING LINE.
WEAPONS IN THE READY POSITION.
WATCH YOUR LANE.
MOVE OUT.

(4) The tower operator exposes two sets of multiple targets to the firers. Once targets have been engaged or lowered, the tower operator commands:

CEASE FIRE.
RELOAD CHAMBERS.
READY ON THE RIGHT.
READY ON THE LEFT.
READY ON THE FIRING LINE.
WEAPONS IN THE READY POSITION.
WATCH YOUR LANE.
MOVE OUT.

(5) The tower operator exposes one set of multiple targets and one single target to the firers. Once targets have been engaged or lowered, the tower operator commands:

CEASE FIRE.
CLEAR ALL WEAPONS.
CLEAR ON THE RIGHT.
CLEAR ON THE LEFT.
THE FIRING LINE IS CLEAR.
FIRERS, KEEP YOUR WEAPONS UP AND DOWNRANGE.
SCORERS AND FIRERS MOVE BACK TO THE FIRING LINE AND PLACE YOUR WEAPONS ON THE WEAPON STANDS. (Leave cylinders open.)

(6) The tower operator has each scorer total the firers scorecard and turn it in to the range officer or his representative. The firing orders are rotated and the above sequence continued until all orders have fired.

**NOTE: For night qualification and NBC qualification, the same course is used. Ten seconds is allowed for each round.**

**C-4. ALIBIS**

a. Alibis are fired at the completion of each table from the position where the alibi occurred. Fire commands that apply to the table are used to fire the alibi.

b. If a malfunction of the weapon or target occurs during firing from stationary positions, the firer reports the malfunction and keeps his weapon pointed up and downrange. Should the malfunction occur during Table V, the firer keeps his weapon pointed up and downrange. He continues to move forward, keeping aligned with the firers to his right and left.

**C-5. RULES**

Rules governing firing the CPQC are as follows:

a. Coaching. Coaching is not allowed during record firing. No person may give or try to give help while the firer is taking his position or after he has taken his position at the firing point. Each firer must observe the location of the target in his own lane. During the instructional firing, the coach and assistant instructors should assist the firer in correcting errors.

b. Accidental Discharges. All shots fired by the firer are scored after he has taken his place on the firing lane. Even if the weapon is not directed toward a target or is accidentally discharged, a replacement round is not issued.

c. Firing on the Wrong Target. Shots fired on the wrong target are entered as a miss on the firing scorecard. A firer is credited with hits he attains on his own firing lane.

d. Firing After the Signal-to Lower Targets. Any shot fired by a firer after targets start to lower are scored as a miss.

e. More Than One Shot Fired at an E-type Silhouette Target. The firer is credited with a hit if the hit is made during the target exposure time. The number of rounds fired to obtain the hit is immaterial.

f. Excess Ammunition at the End of the Firing Table. Excess ammunition from each table is turned in to the ammunition point and not used by the firer for subsequent tables.

g. Rounds Issued. Firers are issued the number of rounds required to fire a specific table.

h. Target Sequence. Target sequence is controlled by the tower operator but is the same for all lanes to prevent firers from getting in front of firers in adjoining lanes. Targets vary in distance from the firers, starting with 31 meters and allowing no more than two 7-meter targets.

**C-6. SCORECARD**

a. Use. The scorecard (DA Form 88) outlines instructional firing and qualification firing (CPQC) (see Figure C-1). Numbers in columns labeled TGT (target) are not the sequence in which targets are exposed. They are the numerical identification of targets to be engaged during each firing table.

**NOTE: DA Form 88 is used to score the revolver qualification course.**

b. Scoring. Each time a target is hit or "killed," an X is placed in the column labeled HITS. The value of a hit is 10 points. Upon completion of firing the CPQC, the scorer totals and signs the scorecard. Qualification standards are listed in the bottom right-hand corner of the record firing side of the scorecard. They are:

Expert 260-300.
Sharpshooter 210-250.

Marksman 160-200.
Unqualified Below 160.

NBC and night qualification is on a GO/NO-GO scoring system and recorded in the remarks column.

Night: 5 target hits = GO
NBC: 7 target hits = GO

c. Supply of Forms. DA Form 88 is available through normal publications supply channels (see Figure A-1).

**C-7. TARGETS**

Seven electric target device targets and E-type silhouettes for each firing lane are required. Aggressor figures may be superimposed on the silhouettes to add realism to the course of fire.

**C-8. QUICK TARGET TRAINING DEVICE**

The QTTD may be procured locally. For durability and appearance, it should be made by the training aids section or an equally capable agency.

# CHAPTER 1

# US ARMY HANDGUNS

**1-1. PISTOL, SEMIAUTOMATIC, 9-MM, M9**

The M9 pistol is a 9-mm semiautomatic, magazine-fed, recoil-operation, double-action weapon chambered for the 9mm cartridge. The magazine has a 15-round capacity.

**a. Equipment Data.**

| | |
|---|---|
| Caliber | 9-mm NATO |
| System of Operation | Short recoil, semiautomatic |
| Locking System | Oscillating block |
| Length | 217 mm (8.54 inches) |
| Width | 38 mm (1.5 inches) |
| Height | 140 mm (5.51 inches) |
| Weight with Empty Magazine | 960 grams (2.1 pounds) |
| Weight with 15-Round Magazine | 1,145 grams (2.6 pounds) |
| Barrel Length | 125 mm (4.92 inches) |
| Rifling | R.H , six-groove (pitch 250 mm [about 10 inches]) |
| Muzzle Velocity | 375 meters per second (1,230.3 feet per second) |
| Muzzle Energy | 569.5 newton meters (430 foot pounds) |
| Maximum Range | 1,800 meters (1,962.2 yards) |
| Maximum Effective Range | 50 meters (54.7 yards) |
| Front Sight | Blade, integral with slide |
| Rear Sight | Notched bar, dovetailed to slide |
| Sighting Radius | 158 mm (6.22 inches) |
| Safety Features | Decocking/safety lever, firing pin block. |
| Hammer (half-cocked notch) | Prevents accidental discharge. |
| Basic Load | 45 rounds |
| Trigger Pull | Single-Action: 5.50 pounds<br>Double-Action: 12.33 pounds |

**NOTE: For additional information on technical aspects of the M9 pistol see TM 9-1005-317-310.**

**WARNING**

**THE HALF-COCKED POSITION CATCHES THE HAMMER AND PREVENTS IT FROM FIRING IF THE HAMMER IS RELEASED WHILE MANUALLY COCKING THE WEAPON. IT IS NOT TO BE USED AS A SAFETY POSITION. THE PISTOL WILL FIRE FROM THE HALF-COCKED POSITION IF THE TRIGGER IS PULLED.**

**b. Operation.**

The M9 pistol has a short recoil system using a falling locking block. The pressure developed by the expanding gases of a fired round recoils the slide and barrel assembly. After a short run, the locking block is disengaged from the slide, the barrel stops against the frame, and the slide continues its rearward movement. The slide then extracts and ejects the fired cartridge case, cocks the hammer, and compresses the recoil spring. The slide moves forward feeding the cartridge from the magazine into the chamber. The slide and barrel assembly remain open after the last cartridge has been fired and ejected.

**1-2. PISTOL, AUTOMATIC, .45 CALIBER, M1911 AND M1911A1**

The M1911 and M1911A1 pistols are semiautomatic, .45-caliber, recoil-operated, magazine-fed, single-action pistols. The magazine has a seven-round capacity.

a. Equipment Data

```
Caliber-----------------------------------0.45 inches
System of Operation--------------------Short recoil,
                                        semiautomatic
Length------------------------------------8 5/8 inches
Weight With Empty Magazine-----------------2.4 pounds
Weight With Full Magazine--------------------3 pounds
Length of Barrel-------------------------5.03 inches
Rifling-----------------------------L.H., six groove
                              (Pitch 1 in 16 inches)
Muzzle Velocity--------------------830 feet per second
Muzzle Energy----------------------17,000 pounds per
                                                inch
Maximum Range----------------------------1,500 meters
Maximum Effective Range---------------------50 meters
Front Sight---------------Blade, integral with slide
Rear Sight-----------Notched bar, dovetailed to slide
Sight Radius-----------------------------6.481 inches
Safety Features------------------Manual safety lever,
                      grip safety, half-cock position
Basic Load---------------------------------21 rounds
Trigger Pull------------------------5 to 6 1/2 pounds
```

**b. Operation.**

(1) Each time a cartridge is fired, the parts inside the weapon function in a given order. This is known as the functioning cycle or cycle of operation.

(2) The cycle of operation of the weapon is divided into eight steps: feeding, chambering, locking, firing, unlocking, extracting, ejecting, and cocking. The steps are listed in the order in which functioning occurs; however, more than one step may occur at the same time.

(3) A magazine containing ammunition is placed in the receiver. The slide is pulled fully to the rear and released. As the slide moves forward, it strips the top round from the magazine and pushes it into the chamber. The hammer remains in the cocked position, and the weapon is ready to fire.

(4) The weapon fires one round each time the trigger is pulled. Each time a cartridge is fired, the slide and barrel recoil or move a short distance locked together. This permits the bullet and expanding powder gases to escape from the muzzle before the unlocking is completed.

(5) The barrel then unlocks from the slide and continues to the rear, extracting the cartridge case from the chamber and ejecting it from the weapon. During this rearward movement the magazine feeds another cartridge, the recoil spring is compressed, and the hammer is cocked.

(6) At the end of the rearward movement, the recoil spring expands, forcing the slide forward, locking the barrel and slide together. The weapon is ready to fire again. The same cycle of operation continues until the ammunition is expended.

(7) As the last round is fired, the magazine spring exerts upward pressure on the magazine follower. The stop on the follower strikes the slide stop, forcing it into the recess on the bottom of the slide and locking the slide to the rear. This action indicates that the magazine is empty and aids in faster reloading.

**NOTE: For additional information on the technical aspects of the caliber .45 pistol see TM 9-1005-211-12.**

## 1-3. REVOLVER, CALIBER .38

There are six basic caliber .38 service revolvers in use by the Army. One is a 2-inch barreled, .38-caliber revolver made by Smith and Wesson; five are 4-inch barreled, .38-caliber revolvers--three made by Ruger, and two by Smith and Wesson. The 2-inch barreled revolver is used mainly by Army CID and counterintelligence personnel. The 4-inch barreled revolvers are used by aviators and military police.

**a. Equipment Data.**

**Smith and Wesson**

```
Caliber-----------------------------------0.38 inches
System of Operation------------------Rotated chamber
Length: 2-Inch Barrel--------------------7 1/4 inches
        4-Inch Barrel--------------------9 1/4 inches
Weight: 2-Inch Barrel--------------------26.5 ounces
```

```
        4-inch Barrel--------------------30.5 ounces
Length of Barrel-------------------2 inches/4 inches
Muzzle Velocity------------------950 feet per second
Muzzle Energy-----------------16,000 per square inch
Maximum Range: 2-Inch Barrel---------------868 meters
               4-Inch Barrel---------------992 meters
Maximum Effective Range-----45 meters (2-inch barrel)
                           60 meters (4-inch barrel)
Front Sight-------------Fixed 1/8-inch serrated ramp
Rear Sight-------------------------------Square notch
Safety Features-----------No manually operated safety
Basic Load---------------------------------18 rounds
```

**Ruger**

```
Caliber-----------------------------------0,38 inches
System of Operation------------------Rotated chamber
Length-------------------------------9 1/4 inches
Weight-------------------------------------33 ounces
Length of Barrel----------------------------4 inches
Muzzle Velocity------------------950 feet per second
Muzzle Energy-----------------16,000 per square inch
Maximum Range------------------------------992 meters
Maximum Effective Range--------------------60 meters
Front Sight-------------------------------Fixed blade
Rear Sight--------------------------------Fixed groove
Safety Features-----------No manually operated safety
Basic Load---------------------------------18 rounds
```

**b. Operation.**

(1) When firing single-action, the hammer is pulled back, and the sear engaged the full-cock notch in the hammer.

(a) Smith and Wesson: Pulling the trigger lowers the hammer block, allowing the hammer to fall.

(b) Ruger: Pulling the trigger raises the transfer bar into the firing position between the hammer and firing pin, allowing the hammer to strike the firing pin.

(2) When firing double-action, the trigger is squeezed. This engages the sear, raising the hammer to nearly full-cock position. Continued pressure on the trigger allows the sear to escape from the trigger and the hammer to fall.

(a) Smith and Wesson: When the trigger is squeezed, the rebound slide pivots the hammer block downward, striking the cartridge primer.

(b) Ruger: When the trigger is squeezed and held to the rear, the transfer bar passes force from the transfer bar to the firing pin, striking the cartridge primer. If the trigger is not held to the rear, the hammer rests directly on the frame and the transfer bar remains below the firing pin.

(3) The cylinder stop (Smith and Wesson) or latch (Ruger) prevents the cylinder from making more than one-sixth of a revolution each time the weapon is cocked. The cylinder stop/latch withdraws from the cylinder as the trigger moves. The trigger hand (Smith and Wesson) or pawl (Ruger) pivots and engages the ratchet on the extractor/ejector portion of the cylinder. The trigger slips off of the cylinder stop/latch as it continues rearward. The cylinder stop/latch then engages the next notch.

**NOTES: 1. In firing the Ruger, the trigger must remain all the way back till the hammer falls. If the trigger is released before the hammer falls, the weapon will not fire. In firing the Smith and Wesson, the weapon fires only when the trigger is pulled all the way back.**

**2. For additional information on the technical aspects of the caliber .38 see TM 9-1005-226-14 and TM 9-1005-205-14&P-1.**

# ALTERNATE PISTOL QUALIFICATION COURSE

Once the soldier has completed instructional firing, he must then fire the CPQC for record. If the CPQC is not available, the soldier can fire the APQC.

a. Procedures for firing the APQC are as follows, given 40 rounds of ammunition, fire Tables 1 through 4.

(1) Table 1: Engage the 25-meter APQC target from the standing position with 7 rounds of ammunition; given one 7-round magazine on a 25-meter range during daylight hours. Within 21 seconds engage the APQC target from the standing position.

(2) Table 2: Engage the 25-meter APQC target from the kneeling position with 13 rounds; given two magazines, one 6-round and one 7-round, on a 25-meter range during hours of daylight. Within 45 seconds, from a standing position, assume a good kneeling position, engage the target with 6 rounds, perform a rapid magazine change, and engage the target with a 7-round magazine.

(3) Table 3: Engage the 25-meter APQC target from the crouch position with 10 rounds; given two magazines with 5 rounds each on a 25-meter range during daylight hours. Within 35 seconds, from a standing position, assume a good crouch position, engage the target with one 5-round magazine, perform a rapid magazine change, and engage the target with the second 5-round magazine.

(4) Table 4: Engage the 25-meter APQC target from the prone position with 10 rounds; given two magazines with 5 rounds each on a 25-meter range during daylight hours. Within 35 seconds from a standing position, assume a good prone position, engage the target with one 5-round magazine, perform a rapid magazine change, and engage the target with the second 5-round magazine.

b. Firing Pistol Under Night Conditions. Engage the 25-meter target from the crouch position with 30 rounds; given two 15-round magazines of M9 9-mm ammunition or four 7-round magazines and one 2-round magazine of M1911A1 ammunition on a 25-meter range under night conditions. Given 10 seconds for each round, engage E-type silhouettes with 10 rounds. Conduct magazine changes without command. Tower will allow 8 seconds for each magazine change.

c. Firing Pistol Under NBC Conditions. Engage a 25-meter target from a crouch position with 20 rounds; given one 15-round magazine and one 5-round magazine of M9 9-mm ammunition or two 7-round magazines and one 6-round magazine of M1911A1 ammunition on a 25-meter range under simulated NBC conditions. During daylight hours, given 10 seconds for each round, engage E-type silhouettes with 20 rounds of ammunition. Conduct magazine changes without command. Tower will allow 10 seconds for each magazine change.

**NOTE: When using the 9-mm pistol, the first round is fired in the double-action mode for all four tables. Night and NBC qualification is required IAW DA Pam 350-38.**

**B-2. CONDUCT OF FIRE**

a. The following commands outline a step-by-step sequence for conducting range firing on the APQC.

(1) Table 1: Standing position.

(a) The tower operator gives the order to move to the firing line and to prepare to fire. The magazine containing seven rounds is issued to the scorer and given to the firer on command. The tower operator commands:

TABLE ONE, STANDING POSITION, SEVEN ROUNDS.
LOAD AND LOCK.
IS THE LINE READY?

(The 9-mm firers place their weapons in the double-action mode at this time.)

THE FIRING LINE IS READY.
FIRERS, WATCH YOUR LANE!

(b) At the end of prescribed firing time, the tower operator commands:

CEASE FIRE.
ARE THERE ANY ALIBIS?

(Alibis are given eight seconds for each round not fired.)

**NOTE: For more information see paragraph B-3.**

UNLOAD AND CLEAR ALL WEAPONS.
IS THE FIRING LINE CLEAR?
THE FIRING LINE IS NOW CLEAR.
FIRERS AND SCORERS MOVE DOWNRANGE AND
CHECK YOUR TARGETS.

(Weapons are left on firing line with slides locked to the rear.)

**NOTE: Clear, lock open, and leave weapons on the table, or stand weapons at the firing line when the firer and scorer go downrange to score their target.**

(2) Table 2: Kneeling position.

The tower operator orders firers to move up to the firing line. Two magazines containing six rounds and seven rounds each are issued to the scorer to be given to the firer on command. The tower operator commands.

TABLE TWO, KNEELING POSITION WITH
MAGAZINE CHANGE, FORTY-FIVE SECONDS.
LOCK AND LOAD ONE SIX-ROUND MAGAZINE
LOAD YOUR SEVEN-ROUND MAGAZINE WITHOUT
COMMAND.

**NOTE: The following commands are the same as for Table 1.**

(3) Table 3: Crouch position.

The tower operator orders firers to move up to the firing line. Scorers are issued two 5-round magazines to be issued to the firer on command. The tower operator commands:

TABLE THREE, CROUCH POSITION WITH
MAGAZINE CHANGE, THIRTY-FIVE SECONDS.
LOAD YOUR SECOND FIVE-ROUND MAGAZINE
WITHOUT COMMAND.

**NOTE: The following commands are the same as for Tables 1 and 2.**

(4) Table 4: Prone position.

The tower operator orders firers to move to the firing line. Firers are issued two 5-round magazines. The tower operator orders:

TABLE FOUR, PRONE POSITION WITH MAGAZINE
CHANGE, THIRTY-FIVE SECONDS.
LOAD YOUR SECOND FIVE-ROUND MAGAZINE
WITHOUT COMMAND.

**NOTE: The following commands are the same as for Tables 1, 2, and 3.**

(5) The scorer and firer repair or replace targets for the next firing order.

b. The commands for the pistol night fire for record are as follows;

(1) The tower operator orders to move to the firing line and to prepare to fire. Two magazines of 15 rounds of M9 ammunition or four 7-round magazines and one 2-round magazine of M1911A1 ammunition are issued to firers.

(2) The tower operator commands:

NIGHT FIRE, CROUCH POSITION WITH
MAGAZINE CHANGES.
LOAD OTHER MAGAZINES WITHOUT COMMAND.
LOAD AND LOCK ONE MAGAZINE.

(M1911A1 firers must load their two-round magazine first.)

IS THE FIRING LINE READY?

(M9 firers must place their weapons in the double-action mode.)

THE FIRING LINE IS READY.
FIRERS, WATCH YOUR LANE.

(3) At the end of the prescribed firing time, the tower operator commands:

CEASE FIRE.
ARE THERE ANY ALIBIS?

(Alibis are given 10 seconds for each round not fired.)

UNLOAD AND CLEAR ALL WEAPONS.
IS THE FIRING LINE CLEAR?
THE FIRING LINE IS NOW CLEAR.

FIRERS AND SCORERS MOVE DOWNRANGE AND
CHECK YOUR TARGETS.
(Weapons are left on the firing line with slides locked to the rear.)
c. The commands for the pistol NBC fire for record are as follows:
(1) The tower operator orders to move to the firing line and to prepare to fire. Firer is given one 15-round magazine and one 5-round magazine of M9 ammunition or two 7-round magazines and one 6-round magazine of M1911A1 ammunition.
(2) The tower operator commands:
NBC FIRE, CROUCH POSITION WITH MAGAZINE
CHANGE.
LOAD OTHER MAGAZINES WITHOUT COMMAND.
LOAD AND LOCK ONE MAGAZINE.
(M9 firers load 5-round magazine first; M1911A1 firers load 6-round magazine first.)
IS THE FIRING LINE READY?
(M9 firers must place their weapons in the double-action mode.)
THE FIRING LINE IS READY.
FIRERS, WATCH YOUR LANE.
(3) At the end of the prescribed firing time, the tower operator commands:
CEASE FIRE.
ARE THERE ANY ALIBIS?
(Alibis are given 8 seconds for each round not fired.)
UNLOAD AND CLEAR ALL WEAPONS.
IS THE FIRING LINE CLEAR?
THE FIRING LINE IS NOW CLEAR.
FIRERS AND SCORERS MOVE DOWNRANGE AND
CHECK YOUR TARGETS.
(Weapons are left on the firing line with slides locked to the rear.)
**NOTE: Excess ammunition at the end of a firing table is turned in to the scorer and not used by the firer in subsequent tables. At the end of the course, all excess ammunition is turned in to the ammunition point.**

**B-3. ALIBIS**

If there is a malfunction of the weapon or target during firing, the scorer reports and records the malfunction. The firer is allowed one alibi (eight seconds for each round) at the completion of each table. All alibis are fired from the position in which the alibis occur. Firing commands that apply are used to fire alibis.

**B-4. SCORING**

a. The firer is scored on the number of target hits during the time limit. The firer must achieve at least 24 hits with a minimum score of 80 points to qualify. The target hits are multiplied by the number inside the scoring rings to determine the score. No credit is given for rounds fired after the command CEASE FIRE. Shots that touch the next higher scoring ring are scored the next higher value. (See Figure B-1.)
b. The qualification scores are:
Expert - 160 to 200.
Sharpshooter - 120 to 159.
Marksman - 80 to 119.
NBC and night firing are done on a GO/ NO-GO scoring system and recorded in remarks column.
NBC: 7 target hits = GO.
Night: 5 target hits = GO.
**NOTE: See format for scorecard in Figure B-2.**
c. Coaching is allowed during instructional firing but not during record fire. No one may assist while the firer is taking position or after taking position at the firing point except for safety reasons.
Figure B-1. The 25-meter E-type silhouette with rings (NSN 6920-01-276-6604).
Figure B-2. Example of completed Alternate Pistol Qualification Course form.
**NOTE: See Appendix F for blank copy of this form for local reproduction.**

# Section IV. SAFETY

Safety must be observed during all marksmanship training. Listed below are the precautions for each phase of training. It is not intended to replace AR 385-63 or local range regulations. Range safety requirements vary according to the requirements of the course of fire. It is mandatory that the latest range safety directives and local range regulations be consulted to determine current safety requirements.

**2-23. REQUIREMENTS**

a. A red flag is displayed prominently on the range during all firing.
b. Weapons must be handled carefully and are never pointed at anyone except the enemy in actual combat.
c. A weapon is always assumed loaded until it has been thoroughly examined and found to contain no ammunition.
d. Firing limits are indicated by red-and-white-striped poles visible to all firers.
e. Obstructions should never be placed in the muzzle of any weapon about to be fired.
f. Weapons are kept in a prescribed area with proper safeguards.
g. Smoking is not allowed on the range near ammunition, explosives, or flammables.

**2-24. BEFORE FIRING**

a. All prescribed roadblocks and barriers are closed, and guards are posted.
b. All weapons are checked to ensure they are clear of ammunition and obstructions, and slides are locked to the rear.
c. All firers are briefed on the firing limits of the range and firing lanes. They must keep their fires within prescribed limits.
d. All firers are instructed on how to load and unload the weapon, and on safety features.
e. All personnel are briefed on all safety aspects of fire and range pertaining to the conduct of the courses
f. No one moves forward of the firing line without permission of the tower operator, safety officer, or OIC.
g. Weapons are loaded and unlocked only on command from the tower operator except during the conduct of the courses requiring automatic magazine changes.
h. Weapons are not handled except on command from the tower operator.
i. Firers must keep their weapons pointed downrange when loading, preparing to fire, or firing.

**2-25. DURING FIRING**

a. A firer does not move from his position until his weapon has been cleared by safety personnel, and it has been placed in its proper safety position. An exception is the assault phase.
b. During Table 5 of the CPQC, firers remain on line with other firers on their right or left.
c. Firers are careful to fire in their own firing lane and not to point the weapon into an adjacent lane, mainly during the assault phase.
d. The air-operated pistol is treated as a loaded weapon. Firers observe the same safety precautions as with other weapons.
e. All personnel wear helmets during live-fire exercises.
f. The weapon is held in the raised position except when preparing to fire. It is then held in the ready position, pointed downrange.

**2-26. AFTER FIRING**

a. Safety personnel inspect all weapons to ensure they are clear. A check is conducted to determine if any brass or live ammunition is in possession of soldiers.
b. Once cleared, pistols are secured with the slides locked to the rear, and revolvers with cylinders open.

**2-27. INSTRUCTIONAL PRACTICE AND RECORD QUALIFICATION FIRING**

During these phases of firing, safety personnel ensure that the--

a. Firer understands the conduct of the exercise.
b. Firer has the required ammunition, and understands the commands for loading and unloading.
c. Firer complies with all commands from the tower operator.
d. Proper alignment is maintained with other firers while moving downrange.
e. Weapon is always pointed downrange.
f. Firer fires within the prescribed range limits.
g. Weapon is cleared after each phase of firing, and the tower-operator is aware of the clearance.

h. Malfunction or failure to fire, due to no fault of the firer, is reported immediately. On command of the tower operator, the weapon is cleared and action is taken to allow the firer to continue with the exercise.
**NOTE: For training and qualification standards see Appendixes A through E.**

# MARKSMANSHIP TRAINING

## BASIC MARKSMANSHIP

**PHASES OF TRAINING**

Marksmanship training is divided into two phases: preparatory marksmanship training and range firing. Each phase may be divided into separate instructional steps. All marksmanship training must be progressive. Combat marksmanship techniques should be practiced after the basics have been mastered.

**2-2. FUNDAMENTALS**

The main use of the pistol or revolver is to engage an enemy at close range with quick, accurate fire. Accurate shooting results from knowing and correctly applying the elements of marksmanship. The elements of combat pistol or revolver marksmanship are:

1. Grip.
2. Aiming.
3. Breath control.
4. Trigger squeeze.
5. Target engagement.
6. Positions.

**GRIP**

The weapon must become an extension of the hand and arm. It should replace the finger in pointing at an object. A firm, uniform grip must be applied to the weapon. A proper grip is one of the most important fundamentals of quick fire.

a. One-Hand Grip. Hold the weapon in the nonfiring hand; form a V with the thumb and forefinger of the strong hand (firing hand) (see Figure 2-1). Place the weapon in the V with the front and rear sights in line with the firing arm. Wrap the lower three fingers around the pistol grip, putting equal pressure with all three fingers to the rear. Allow the thumb of the firing hand to rest alongside the weapon without pressure. Grip the weapon tightly until the hand begins to tremble; relax until the trembling stops. At this point, the necessary pressure for a proper grip has been applied. Place the trigger finger on the trigger between the tip and second joint so that it can be squeezed to the rear. The trigger finger must work independently of the remaining fingers.

**NOTE: If any of the three fingers on the grip is relaxed the grip must be reapplied.**

one-hand grip.

b. Two-Hand Grip. The two-hand grip allows the firer to steady the firing hand and provide maximum support during firing. The nonfiring hand becomes a support mechanism for the firing hand by wrapping the fingers of the nonfiring hand around the firing hand. Two-hand grips are recommended for all pistol and revolver firing.

**WARNING**

**IF THE NONFIRING THUMB IS PLACED IN THE REAR OF THE WEAPON THE RECOIL FROM THE WEAPON COULD RESULT IN PERSONAL INJURY.**

1. Fist grip. Grip the weapon as described in paragraph a above. Firmly close the fingers of the nonfiring hand over the fingers of the firing hand, ensuring that the index finger from the nonfiring hand is between the middle finger of the firing hand and the trigger guard. Place the nonfiring thumb alongside the firing thumb.

**NOTE: Depending upon the individual firer, he may chose to place his index finger of the nonfiring hand on the front of the trigger guard of the M9 pistol since this weapon has a recurved trigger guard designed for this purpose.**

1. Palm-supported grip. This grip is commonly called the cup and saucer grip. Grip the firing hand as described in paragraph a above. Place the nonfiring hand under the firing hand, wrapping the nonfiring fingers around the back of the firing hand. Place the nonfiring thumb over the middle finger of the firing hand. (See Figure 2-3.)
   palm-supported grip.
2. Weaver grip. Apply this grip the same as the fist grip. The only exception is that the nonfiring thumb is wrapped over the firing thumb. (See Figure 2-4.)
   Weaver grip

c. Isometric Tension. The firer raises his arms to a firing position and applies isometric tension. This is commonly known as the push-pull method for maintaining weapon stability Isometric tension is when the firer applies forward pressure with the firing hand and pulls rearward with the nonfiring hand with equal pressure. This creates an isometric force but never so much to cause the firer to tremble. This steadies the weapon and reduces barrel rise from recoil. The supporting arm is bent with the elbow pulled downward. The firing arm is fully extended with the elbow and wrist locked. The firer must experiment to find the right amount of isometric tension to apply.

**NOTE: The firing hand should exert the same pressure as the nonfiring hand. If it does not, a missed target could result.**

d. Natural Point of Aim. The firer should check his grip for use of his natural point of aim. He grips the weapon and sights properly on a distant target. While maintaining his grip and stance, he closes his eyes for three to five seconds. He then opens his eyes and checks for proper sight picture. If the point of aim is disturbed, the firer adjusts his stance to compensate. If the sight alignment is disturbed, the firer adjusts his grip to compensate by removing the weapon from his hand and reapplying the grip. The firer repeats this process until the sight alignment and sight placement remain almost the same when he opens his eyes. This enables the firer to determine and use his natural point of aim once he has sufficiently practiced. This is the most relaxed position for holding and firing the weapon.

**AIMING**

a. Aiming is sight alignment and sight placement. Sight alignment is the centering of the front blade in the rear sight notch. The top of the front sight is level with the top of the rear sight and is in correct alignment with the eye. For correct sight alignment, the firer must center the front sight in the rear sight. He raises or lowers the top of the front sight so it is level with the top of the rear sight.

b. Sight placement is the positioning of the weapon's sights in relation to the target as seen by the firer when he aims the weapon (see Figure 2-5). A correct sight picture consists of correct sight alignment with the front sight placed center mass of the target. The eye can focus on only one object at a time at different distances. Therefore the last focus of the eye is always on the front sight. When the front sight is seen clearly, the rear sight and target will appear hazy. Correct sight alignment can only be maintained through focusing on the front sight. The firer's bullet will hit the target even if the sight picture is partly off center but still remains on the target. Therefore, sight alignment is more important than sight placement. Since it is impossible to hold the weapon completely still, the firer must apply trigger squeeze and maintain correct sight alignment while the weapon is moving in and around the center of the target. This natural movement of the weapon is referred to as wobble area. The firer must strive to control the limits of the wobble area through proper breath control, trigger squeeze, positioning, and grip.

c. Sight alignment is essential for accuracy because of the short sight radius of the pistols and revolvers. For example, if a 1/10-inch error is made in aligning the front sight in the rear sight, the firer's bullet will miss the point of aim by about 15 inches at a range of 25 meters. The 1/10-inch error in sight alignment magnifies as the range increases--at 25 meters it is magnified 150 times.
Correct sight alignment and sight picture.

d. Focusing on the front sight while applying proper trigger squeeze will help the firer resist the urge to jerk the trigger and anticipate the actual moment the weapon will fire. Mastery of trigger squeeze and sight alignment requires practice. Trainers should use concurrent training stations or have fire ranges to enhance proficiency of marksmanship skills.

**BREATH CONTROL**

The firer must learn to hold his breath properly at any time during the breathing cycle if he wishes to attain accuracy that will serve him in combat. This must be done while aiming and squeezing the trigger. While the procedure is simple, it requires explanation, demonstration, and supervised practice. To hold the breath properly the firer takes a breath, lets it out, then inhales normally, lets a little out until comfortable, holds, and then fires. It is difficult to maintain a steady position keeping the front sight at a precise aiming point while breathing. Therefore, the firer should be taught to inhale, then exhale normally, and hold his breath at the moment of the natural respiratory pause ( Breath control, firing at a single target.) The shot must then be fired before he feels any discomfort from not breathing. When multiple targets are presented, the firer must learn to hold his breath at any part of the breathing cycle (see Figure 2-7). Breath control must be practiced during dry-fire exercises until it-becomes a natural part of the firing process.

Breath control, firing at timed or multiple targets.

**TRIGGER SQUEEZE**

a. Improper trigger squeeze causes more misses than any other step of preparatory marksmanship. Poor shooting is caused by the aim being disturbed before the bullet leaves the barrel of the weapon This is usually the result of the firer jerking the trigger or flinching. A slight off-center pressure of the trigger finger on the trigger can cause the weapon to move and disturb the firer's sight alignment. Flinching is an automatic human reflex caused by anticipating the recoil of the weapon. Jerking is an effort to fire the weapon at the precise time the sights align with the target.

**NOTE: See problems in target engagement, paragraph 2-7.**

b. Trigger squeeze is the independent movement of the trigger finger in applying increasing pressure on the trigger straight to the rear, without disturbing the sight alignment until the weapon fires. The trigger slack, or free play, is taken up first, and the squeeze is continued steadily until the hammer falls. If the trigger is squeezed properly, the firer will not know exactly when the hammer will fall; thus, he does not tend to flinch or heel, resulting in a bad shot. Novice firers must be trained to overcome the urge to anticipate recoil. Proper application of the fundamentals will lower this tendency.

c. To apply correct trigger squeeze, the trigger finger should contact the trigger between the tip of the finger to the second joint (without touching the weapon anywhere else). Where contact is made depends on the length of the firer's trigger finger. If pressure from the trigger finger is applied to the right side of the trigger or weapon, the strike of the bullet will be to the left. This is due to the normal hinge action of the fingers. When the fingers on the right hand are closed, as in gripping, they hinge or pivot to the left, thereby applying pressure to the left. (With left-handed firers, this action is to the right.) The firer must not apply pressure left or right but increase finger pressure straight to the rear Only the trigger Linger must perform this action. Dry-fire training improves a firer's ability to move the trigger finger straight to the rear without cramping or increasing pressure on the hand grip.

1. The firer who is a good shot holds the sights of the weapon as nearly on the target center as possible and continues to squeeze the trigger with increasing pressure until the weapon fires.
2. The soldier who is a bad shot tries to "catch his target" as his sight alignment moves past the target and fires the weapon at that instant. This is called ambushing, which causes trigger jerk.

d. Follow-through is the continued effort of the firer to maintain sight alignment before, during, and after the round has fired. The firer must continue the rearward movement of the finger even after the round has been fired. Releasing the trigger too soon after the round has been fired results in an uncontrolled shot, causing a missed target.

**NOTE: The trigger squeeze of the M9 pistol, when fired in the single-action mode, is 5.50 pounds; when fired in double-action mode, it is 12.33 pounds. The firer must be aware of the mode he is firing in. He must also practice squeezing the trigger in each mode to develop expertise in single-action and double-action target engagements.**

**TARGET ENGAGEMENT**

To engage a single target, the firer applies the method discussed in paragraph 2-6 when multiple targets are engaged. The closest and most dangerous multiple target in combat is engaged first and should be fired at with two rounds. This is commonly referred to as a double tap. The firer then traverses and acquires the next target, aligns the sights in the center of mass, focuses on the front sight, applies trigger squeeze, and fires. The firer ensures his firing arm elbow and wrist are locked during all engagements. If the firer has missed the first target and has fired upon the second target, he shifts back to the first and engages it. Some problems in target engagement are as follows:

a. Recoil Anticipation. When a soldier first learns to shoot, he may begin to anticipate recoil. This reaction may cause him to tighten his muscles during or just before the hammer falls. He may fight the recoil by pushing the weapon downward in anticipating or reacting to its firing. In either case, the rounds will not hit the point of aim. A good method to show the firer that he is anticipating the recoil is the ball-and-dummy method (see paragraph 2-16).

b. Trigger Jerk. Trigger jerk occurs when the soldier sees that he has acquired a good sight picture at center mass and "snaps" off a round before the good sight picture is lost. This may become a problem, especially when the soldier is learning to use a flash sight picture (see paragraph 2-9).

c. Heeling. Heeling is caused by a firer tightening the large muscle in the heel of the hand to keep from jerking the trigger. A firer who has had problems with jerking the trigger tries to correct the fault by tightening the bottom of the hand, which results in a heeled shot. Heeling causes the strike of the bullet to hit high on the firing hand side of the target. The firer can correct shooting errors by knowing and applying correct trigger squeeze.

**POSITIONS**

The qualification course is fired from a standing kneeling, or crouch position. All of the firing positions described below must be practiced so they become natural movements, during qualification and combat firing. Though these positions seem natural, practice sessions must be conducted to ensure the habitual attainment of correct firing positions. Assuming correct firing positions ensures that soldiers can quickly assume these positions without a conscious effort. Pistol marksmanship requires a soldier to rapidly apply all the fundamentals at dangerously close targets while under stress. Assuming a proper position to allow for a steady aim is critical to survival.

a. Pistol-Ready Position. In the pistol-ready position, hold the weapon in the one-hand grip. Hold the upper arm close to the body, and the forearm at about a 45ø angle. Point the weapon toward target center as you move forward (see Figure 2-8).

Pistol-ready position.

b. Standing Position Without Support. Face the target (see Figure 2-9). Place feet a comfortable distance apart, about shoulder width. Extend the firing arm and attain a two-hand grip. The wrist and elbow of the firing arm are locked and pointed toward target center. Keep the body straight with the shoulders slightly forward of the buttocks.

Standing position without support.

**NOTE: During combat, there may not be time for a soldier to assume a position that will allow him to establish his natural point of aim. Firing from a covered position may require the soldier to adapt his shooting stance to available cover.**

c. Kneeling Position. In the kneeling position, ground only the firing side knee as the main support (see Figure 2-10). Vertically place the foot, used as the main support, under the buttocks. Rest the body weight on the heel and toes. Rest the nonfiring arm just above the elbow on the knee not used as the main body support.

Use the two-handed grip for firing. Extend the firing arm, and lock the firing arm elbow and wrist to ensure solid arm control.

Kneeling position.

d. Crouch Position. Use the crouch position when surprise targets are engaged at close range (see Figure 2-11). Place the body in a forward crouch (boxer's stance) with the knees bent slightly and

Crouch position.

trunk bent forward from the hips to give faster recovery from recoil. Place the feet naturally in a position that allows another step toward the target. Extend the weapon straight toward the target, and lock the wrist and elbow of the firing arm. It is important to consistently train with this position, since the body will automatically crouch under conditions of stress such as combat. It is also a faster position from which to change direction of fire.

e. Prone Position. Lie flat on the ground, facing the target (see Figure 2-12). Extend arms in front with the firing arm locked. The arms may have to be slightly unlocked for firing at high targets. Rest the butt of the weapon on the ground for single, well-aimed shots. Wrap the nonfiring hand (fingers) around the fingers of the firing hand. Face forward. Keep the head down between arms as much as possible and behind the weapon.

Prone position.

f. Standing Position With Support. Use available cover for support--for example, a tree or wall to stand behind (see Figure 2-13). Stand behind a barricade with the firing side on line with the edge of the barricade. Place the knuckles of the the nonfiring fist at eye level against the edge of the barricade. Lock the elbow and wrist of the firing arm. Move the foot on the nonfiring side forward until the toe of the boot touches the bottom of the barricade.

Standing position with support.

g. Kneeling Supported Position. Use available cover for support--for example, use a low wall, rocks, or vehicle (see Figure 2-14). Place the firing-side knee on the ground. Bend the other knee and place the foot (nonfiring side) flat on

Kneeling supported.

the ground, pointing toward the target. Extend arms alongside and brace them against available cover. Lock the wrist and elbow of the firing arm. Place the nonfiring hand around the fist to support the firing arm. Rest the nonfiring arm just above the elbow on the nonfiring-side knee.

# COMBAT MARKSMANSHIP

After a soldier becomes proficient in the fundamentals of marksmanship, he progresses to advanced techniques of combat marksmanship. The main use of the pistol or revolver is to engage the enemy at close range with quick, accurate fire. In shooting encounters, it is not the first round fired that wins the engagement, but the first accurately fired round. The soldier should use his sights when engaging the enemy, the only exception being if this would place the weapon within arm's reach of the enemy.

**TECHNIQUES OF FIRING**

**a. Hand-and-Eye Coordination.**

(1) Hand-and-eye coordination is not a natural, instinctive ability for all soldiers. It is usually a learned skill obtained by practicing the use of a flash sight picture (see paragraph b below). The more a soldier practices raising the weapon to eye level and obtaining a flash sight picture, the more natural the relationship between soldier, sights, and target becomes. Eventually, proficiency elevates to a point so that the soldier can accurately engage targets in the dark. Each soldier must be aware of this trait and learn how to best use it. Poorly coordinated soldiers can achieve proficiency by being closely supervised. Everyone has the ability to point at an object. Since pointing the forefinger at an object and extending the weapon toward a target are much the same, the combination of the two are natural. Making the soldier aware of this ability and teaching him how to apply it when firing results in success when engaging enemy targets in combat.

(2) The eyes focus instinctively on the center of any object observed. After the object is sighted, the firer aligns his sights on the center of mass, focuses on the front sight, and applies proper trigger squeeze. Most crippling or killing hits result from maintaining the focus on the center of mass. The eyes must remain fixed on some part of the target throughout firing.

(3) When a soldier points, he instinctively points at the feature on the object on which his eyes are focused. An impulse from the brain causes the arm and hand to stop when the finger reaches the proper position. When the eyes are shifted to a new object or feature, the finger, hand, and arm also shift to this point. It is this inherent trait that can be used by the soldier to rapidly and accurately engage targets. This instinct is called hand-and-eye coordination.

b. Flash Sight Picture. Usually when engaging an enemy at pistol/revolver ranges, the firer has little time to ensure a correct sight picture. The quick-kill (or natural point of aim) method does not always ensure a first-round hit. A compromise between a correct sight picture and the quick-kill method is known as a flash sight picture. As the soldier raises the weapon to eye level, his point of focus switches from the enemy to the front sight, ensuring that the front and rear sights are in proper alignment left and right, but not necessarily up and down. Pressure is applied to the trigger as the front sight is being acquired, and the hammer falls as the flash sight picture is confirmed. Initially, this method should be practiced slowly, gaining speed as proficiency increases.

c. Quick-Fire Point Shooting. This is for engaging an enemy at less than 5 yards. It is also useful for night firing. The weapon should be held in a two-hand grip. It is brought up close to the body until it reaches chin level and is then thrust forward until both arms are straight. The-arms and body form a triangle, which can be aimed as a unit. In thrusting the weapon forward, the firer can imagine that there is a box between him and the enemy, and he is thrusting the weapon into the box. The trigger is smoothly squeezed to the rear as the elbows straighten out.

d. Quick-Fire Sighting. This is used when engaging an enemy at 5 to 10 yards away. It is used only when there is no time available to get a full picture. The firing position is the same as for quick-fire point shooting. The sights are aligned left and right to save time, but not up and down. The firer must determine in practice what the sight picture will look like and where the front sight must be aimed to hit the enemy in the chest.

**TARGET ENGAGEMENT**

In close combat, there is seldom time to precisely apply all of the fundamentals of marksmanship. When a soldier fires a round at the enemy, many times he will not know if he hit his target. Therefore, two rounds should be fired at the target. This is called a double tap. If the enemy continues to attack, two more shots should be placed in the pelvic area to break the body's support structure, causing the enemy to fall.

**TRAVERSING**

a. Traversing 360ø. In close combat, the enemy may be attacking from all sides. The soldier may not have time to constantly change his position to adapt to new situations. The purpose of the crouching or kneeling traverse 360ø is to fire in any direction without moving the feet. The firer remains in the crouch position with feet almost parallel to each other. The following instructions are for a right-handed firer. The two-hand grip is used at all times except for over the right shoulder. Turning will be natural on the balls of the feet.

(1) Over the left shoulder (see Figure 2-15): The upper body is turned to the left, the weapon points to the left rear with the elbows of both arms bent. The left elbow will naturally be bent more than the right elbow.
(2) Traversing to the left (see Figure 2-16): The upper body turns to the right, and the right firing arm straightens out. The left arm will be slightly bent.
(3) Traversing to the front (see Figure 2-17): The upper body turns to the front as the left arm straightens out. Both arms will be straight forward.
(4) Traversing to the right (see Figure 2-18): The upper body will turn to the right as both elbows bend. The right elbow will naturally bend more than the left.
Traversing over the left to the left. shoulder.
Traversing to the front. to the right.
(5) Traversing to the right rear (see Figure 2-19): The upper body continues to turn to the right until it reaches a point that it cannot go further comfortably. Eventually the left hand will have to release itself from the fist grip and the firer will be shooting to the right rear with the right hand.
Traversing to the right rear.
b. Kneeling 360ø Traverse. The following instructions are for right-handed firers. The hands are in a two-hand grip at all times. The unsupported kneeling position is used. The rear foot must be positioned to the left of the front foot.
(1) Traversing to the left side (see Figure 2-20): The upper body turns to a comfortable position toward the left. The weapon is aimed to the left. Both elbows are bent with the left elbow naturally bent more than the right elbow.
(2) Traversing to the front (see Figure 2-21): The upper body is turned to the front, and a standard unsupported kneeling position is assumed. The right firing arm is straight, and the left elbow is slightly bent.
(3) Traversing to the right side (see Figure 2-22): The upper body turns to the right as both arms straighten out.
(4) Traversing to the rear (see Figure 2-23): The upper body continues to turn to the right as the left knee is turned to the right and placed on the ground. The right knee is lifted off the ground and becomes the forward knee. The right arm is straight, while the left arm is bent. The direction of the kneeling position has been reversed.
Traversing to the left, to the front, kneeling. kneeling.
Traversing to the right, to the rear, kneeling. kneeling.
(5) Traversing to the new right side (see Figure 2-24): The upper body continues to the right. Both elbows are straight until it reaches a point that it cannot comfortably to further. Eventually, the left hand must be released from the fist grip, and the firer will be firing to the right with the one-hand grip.
Traversing to the new right side, kneeling.
c. Training Method. This method can be taught anywhere without a weapon by the firer simulating a two-hand grip. The firer should be familiar with firing in all five directions.

**COMBAT RELOADING TECHNIQUES**

Reloading was an overlooked problem for many years until it was discovered that soldiers were being killed due to dropping of magazines, shaking hands, placing magazines in backward, and placing empty magazines back into the weapon. The stress state induced by a life-threatening situation causes soldiers to do things they would not otherwise do. Consistent, repeated training is needed to avoid such mistakes.

**NOTE: These procedures should only be used in combat, not on firing ranges.**

- STEP 1: Develop a consistent method for carrying magazines in the ammunition pouches. All magazines should face down with the bullets facing forward and to the center of the body.
- STEP 2: Know when to reload. When possible, count the number of rounds fired. However, it is possible to lose count in close combat. If this happens, there is a distinct difference in recoil of the pistol when the last round has been fired. Change magazines when two rounds may be left--one in the magazine and one in the chamber. This prevents being caught with an empty weapon at a crucial time. Reloading is faster with a round in the chamber since time is not needed to release the slide.

- STEP 3: Obtain a firm grip on the magazine. This precludes the magazine being dropped or difficulty in getting the magazine into the weapon. Ensure the knuckles of the hand are toward the
- body while gripping as much of the magazine as possible. Place the index finger high on the front of the magazine when withdrawing from the pouch. Use the index finger to guide the magazine into the magazine well.
- STEP 4: Know which reloading procedure to use for the tactical situation. There are three systems of reloading: rapid, tactical, and one-handed. Rapid reloading is used when the soldier's life is in immediate danger, and the reload must be accomplished quickly. Tactical reloading is used when there is more time, and it is desirable to keep the replaced magazine because there are rounds still in it or it will be needed again. One-handed reloading is used when there is an arm injury.

**Rapid Reloading.**

- Place your hand on the next magazine in the ammunition pouch to ensure there is another magazine.
- Withdraw the magazine from the pouch while releasing the other magazine from the weapon. Let the replaced magazine drop to the ground.
- Insert the replacement magazine, guiding it into the magazine well with the index finger.
- Release the slide, if necessary.
- Pick up the dropped magazine if time allows. Place it in your pocket, not back into the ammunition pouch where it may become mixed with full magazines.

Tactical Reloading.

- Place your hand on the next magazine in the ammunition pouch to ensure there is a remaining magazine.
- Withdraw the magazine from the pouch.
- Drop the used magazine into the palm of the nonfiring hand, which is the same hand holding the replacement magazine.
- Insert the replacement magazine, guiding it into the magazine well with the index finger.
- Release the slide, if necessary.
- Place the used magazine into a pocket. Do not mix it with full magazines.

c. One-Hand Reloading.

(1) With the right hand.

- Push the magazine release button with the thumb.
- Place the safety ON with the thumb if the slide is forward.
- Place the weapon backwards into the holster.

**NOTE: If placing the weapon in the holster backwards is a problem, place the weapon between the calf and thigh to hold the weapon.**

- Insert the replacement magazine.
- Withdraw the weapon from the holster.
- Remove the safety with the thumb if the slide is forward, or push the slide release if the slide is back.

(2) With the left hand.

- Push the magazine release button with the middle finger.
- Place the safety ON with the thumb if the slide is forward. With the .45-caliber pistol, the thumb must be switched to the left side of the weapon.
- Place the weapon backwards into the holster.

**NOTE: If placing the weapon in the holster backwards is a problem, place the weapon between the calf and thigh to hold the weapon.**

- Insert the replacement magazine.
- Remove the weapon from the holster.
- Remove the safety with the thumb if the slide is forward, or push the slide release lever with the middle finger if the slide is back.

**POOR VISIBILITY FIRING**

Poor visibility firing with any weapon is difficult since shadows can be misleading to the soldier. This is mainly true during EENT and EMNT (a half hour before dark and a half hour before dawn). Even though the weapon is a short-range weapon, the hours of darkness and poor visibility further decrease its effect. To compensate, the soldier must use the three principles of night vision.

a. Dark Adaptation. This process conditions the eyes to see during poor visibility conditions. The eyes usually need about 30 minutes to become 98- percent dark adapted in a totally darkened area.

b. Off-Center Vision. When looking at an object in daylight, a person looks directly at it. However, at night he would see the object only for a few seconds. To see an object in darkness, he must concentrate on it while looking 6ø to 10ø away from it.

c. Scanning. This is the short, abrupt, irregular movement of the firer's eyes around an object or area every 4 to 10 seconds. When artificial illumination is used, the firer uses night fire techniques to engage targets, since targets seem to shift without moving.

**NOTE: For more detailed information on the three principles of night vision, see FM 21-75.**

**NUCLEAR, BIOLOGICAL, CHEMICAL FIRING**

When firing under NBC conditions with a pistol or revolver, the firer should use optical inserts, if applicable. Firing in MOPP1 through MOPP3 levels should not be a problem for the firer. Unlike wearing a protective mask while firing a rifle, the firer's sight picture will be acquired the same as with or without a protective mask. MOPP4 is the only level that may present a problem for a firer since gloves are worn. Gloves may require the firer to adjust his grip to attain a proper grip and proper trigger squeeze. Firers should practice firing in MOPP4 to become proficient in NBC firing.

# COACHING AND TRAINING AIDS

**COACHING**

a. Throughout preparatory marksmanship training, the coach-and-pupil method of training should be used. The proficiency of a pupil depends on how well his coach performs his duties. The coach assists the firer by correcting errors, ensuring he takes proper firing positions, and ensuring he observes all safety precautions. The criteria for selecting coaches are a command responsibility; coaches must have experience in pistol marksmanship above that of the student firer.

b. Duties of the coach during instruction practice and record firing include:

(1) Checking that the--

(a) Weapon is cleared.

(b) Ammunition is clean.

(c) Magazines are clean and operational.

(2) Observing the firer to see that he--

(a) Takes the correct firing position.

(b) Loads the weapon properly and only on command.

(c) Takes up the trigger slack correctly.

(d) Squeezes the trigger correctly (see paragraph 2-7)

(e) Calls the shot each time he fires (except for quick fire and rapid fire).

(f) Holds his breath correctly (see paragraph 2-5).

(g) Lowers his weapon and rests his arm when he does not fire a round within five to six seconds.

(3) Having the firer breathe deeply several times to relax if he is tense.

**BALL-AND-DUMMY METHOD**

In this method the coach loads the weapon for the firer. He may hand the firer a loaded weapon or an empty one. When firing the empty weapon, the firer observes that in anticipating recoil he is forcing the weapon downward as the hammer falls. Repetition of the ball-and-dummy method helps to alleviate recoil anticipation.

**CALLING THE SHOT**

To call the shot is to state where the bullet should strike the target according to the sight picture at the instant the weapon fires--for example: "high," "a little low," "to the left," "to the right," or "bull's-eye." If the firer does not call his shot correctly in range firing, he is not concentrating on sight alignment. Consequently, he does not know what his sight picture is as he fires. Another method of calling the shot is the clock system--for example. a three-ring hit at 8 o'clock, a four-ring hit at 3 o'clock. Another method is to provide the firer with a target center (placed beside him on the firing line). As soon as the shot is fired, the firer must place a finger on the target face or center where he expected the round to hit on the target. This method avoids guessing and computing for the firer. The immediate placing of the finger on the target face gives an accurate call. If the firer does not call his shot correctly, he is not concentrating on sight alignment and trigger squeeze. Thus, he does not know that his sight picture is as the weapon fires.

**PENCIL TRIANGULATION EXERCISE**

The pencil triangulation exercise (see Figure 2-25) is conducted only with an unloaded and properly cleared M1911A1 caliber .45 pistol. It will not work with an M9 pistol; however, coaches may have students dry fire the M9 while he observes the firers to see if the front sight dips or jumps when the hammer falls. The pencil triangulation exercise consists of firing a pencil or pointed dowel point-blank at a miniature target. It combines position, grip, sight alignment, breathing, and trigger squeeze into a single practical work exercise. At the same time, it measures the firer's performance without the effects of recoil. This practical work is designed to teach and develop correct shooting habits. It can be conducted indoors or out, which makes an ideal exercise where range facilities are limited or when weather is poor.

Pencil triangulation exercise.

**a. Equipment.**

(1) One dowel or lead pencil for every two students. This pencil should be at least 6 inches long and wrapped with masking or cellophane tape. The tape wrappings form two bushings that fit the inside diameter of the weapon's barrel.

(2) One miniature bull's-eye sheet for every two students. The bull's-eye sheet can be copied, drawn, or stamped by using the eraser of a pencil and ink pad. The bull's-eyes should not be larger than 1/8 inch and at least 1 inch apart.

b. Conduct of the Exercise. The instructor explains and demonstrates the details of the exercise before practical work by the students. The firer should begin by using a two-hand grip, progressing to the one-hand grip as his skills increase.

(1) The firer faces the target and takes up a good shooting position. This position is close enough to the miniature bull's-eye so when the pencil is inserted into the barrel, with the firer's arm extended and the sights aimed at the miniature bull's-eye, the point of the pencil is within l inch of the target. The bull's-eye sheet should be affixed to a target, or any type support, and should be shoulder-high to the firer.

(2) The firer inserts the pencil into the muzzle of the barrel, eraser end first, and cocks the hammer. He grips the weapon properly, extends the shooting arm, aims the weapon at the miniature bull's-eye, squeezes the trigger, and the hammer falls. The hammer strikes the firing pin, which in turn strikes the rubber eraser of the pencil, driving it out of the barrel and causing it to make a pencil dot l/2 inch below the bull's-eye (if the firer had the correct sight alignment and trigger squeeze).

(3) The firer continues this exercise until he has fired a group of five pencil marks below each target. The object of the exercise is to keep the five pencil marks in a group as small as the 1/8-inch bull's-eye, 1/2 inch directly below the bull's-eye. With practice, many firers can hit the same mark with the pencil. This indicates that the firer is properly performing the fundamentals of marksmanship each time.

**SLOW-FIRE EXERCISE**

a. This is a dry-fire exercise. The slow-fire exercise is one of the most important exercises for both amateur and competitive marksmen. Coaches should ensure soldiers practice this exercise as much as possible. To perform the slow-fire exercise, the firer assumes the standing position with the weapon pointed at the target. The firer should begin by using a two-hand grip, progressing to the one-hand grip as his skill increases. He takes in a normal breath and lets part of it out, locking the remainder in his lungs by closing his throat. He then relaxes, aims at the target, takes the correct sight alignment and sight picture, takes up the trigger slack, and squeezes the trigger straight to the rear with steady, increasing pressure until the hammer falls, simulating firing.

b. If the firer does not cause the hammer to fall in 5 or 6 seconds, he should come to the pistol ready position, and rest his arm and hand. He then starts the procedure again. The action sequence that makes up this process can be summed up by the key word BRASS. It is a word the firer should think of each time he fires his weapon:
Breathe--Take a normal breath, let part of it out, and lock the remainder in the lungs by closing the throat.
Relax--Relax the body muscles.
Aim--Take correct sight alignment and sight picture, and focus the eye at the top of the front sight.
Slack--Take up the trigger slack.
Squeeze--Squeeze the trigger straight to the rear with steadily increasing pressure without disturbing sight alignment until the hammer falls.
c. Coaches should observe the front sight for erratic movements during the application of trigger squeeze. Proper application of trigger squeeze allows the hammer to fall without the front sight moving. A small bouncing movement of the front sight is acceptable. Firer's should call the shot by the direction of movement of the front sight (high, low, left, or right).

**AIR-OPERATED PISTOL, .177 MM**

The air-operated pistol is used as a training device to teach the soldier the method of quick fire, to increase confidence in his ability, and to afford him more practice firing. A range can be set up almost anywhere with a minimum of effort and coordination, which is ideal for USAR and NG. If conducted on a standard range, live firing of pistols and revolvers can be conducted along with the firing of the .177-mm air-operated pistol. Due to light recoil and little noise of the pistol, the soldier can concentrate on fundamentals. This helps build confidence, because the soldier can hit a target faster and accurately. The air-operated pistol should receive the same respect as any firearm. A thorough explanation of the weapon and a safety briefing are given to each soldier.

**QUICK-FIRE TARGET TRAINING DEVICE**

The QTTD (see Figures 2-26 and 2-27) is used with the .177-mm air-operated pistol. The quick-fire target training device.
PHASE I. From 10 feet, five shots at a 20-foot miniature E-type silhouette. After firing each shot, the firer and coach discuss the results and make corrections.
PHASE II. From 15 feet, five shots at a 20-foot miniature E-type silhouette. The same instructions apply to this exercise as for PHASE I.
Dimensions for the QTTD.
PHASE III. From 20 feet, five shots at a 20-foot miniature E-type silhouette. The same instructions apply to this exercise as for PHASES I and II.
PHASE IV. From 15 feet, six shots, at two 20-foot miniature E-type silhouettes.
(1) This exercise is conducted the same as the previous one, except that the firer is introduced to fire distribution. The targets on the QTTD are held in the up position so they cannot be knocked down when hit.
(2) The firer first engages the 20-foot miniature E-type silhouette on the extreme right of the QTTD (see Figure 2-28). He then traverses between targets and engages the same type target on the extreme left of the QTTD. The firer again shifts back to reengage the first target. The procedure is used to teach the firer to instinctively return to the first target if he misses it with his first shot.
Miniature E-type silhouette for use with QTTD.
Miniature E-type silhouette for use with QTTD (continued).
Miniature E-type silhouette for use with QTTD (continued).
(3) The firer performs this exercise twice, firing three shots each time. Before firing the second time, the coach and firer should discuss the errors made during the first exercise.
PHASE V. Seven shots fired from 20, 15, and 10 feet at miniature E-type silhouettes.
(1) The firer starts this exercise 30 feet from the QTTD. The command, MOVE OUT, is given, and the firer steps out at a normal pace with the weapon held in the ready position. Upon the command, FIRE (given at the 20-foot line), the firer assumes the crouch position and engages the 20-foot miniature E-type silhouette on the extreme right of the QTTD. He then traverses between targets, engages the same type target on the extreme left of the QTTD, and shifts back to the first target. If the target is still up, he engages it. The firer then assumes the standing position and returns the weapon to the ready position. Upon completion of each exercise, the coach makes corrections as the firer returns to the standing position.
(2) On the command, MOVE OUT, the firer again steps off at a normal pace. Upon the command, FIRE (given at the 15-foot line), he engages the 15-foot targets on the QTTD. The same sequence of fire distribution is followed as with the previous exercise.

(3) During this exercise, the firer moves forward on command, until he reaches the 10-foot line. At the command, FIRE, the firer engages the 10-foot miniature E-type silhouette in the center of the QTTD.

**RANGE FIRING COURSES**

Range firing is conducted after the firers have satisfactorily completed preparatory marksmanship training. The range firing courses are:

a. Instructional firing is practice firing on a range, using the assistance of a coach.

(1) All personnel authorized or required to fire the pistol or revolver receive 12 hours of preliminary instruction that includes the following:

- Disassembly and assembly (does not apply to revolver).
- Loading, firing, unloading, and immediate action.
- Preparatory marksmanship.
- Care and cleaning.

(2) The tables fired for instructional practice are prescribed in the combat pistol qualification course in Appendix A and in the revolver qualification course in Appendix C. During the instructional firing, the CPQC or RQC is fired with a coach or instructor.

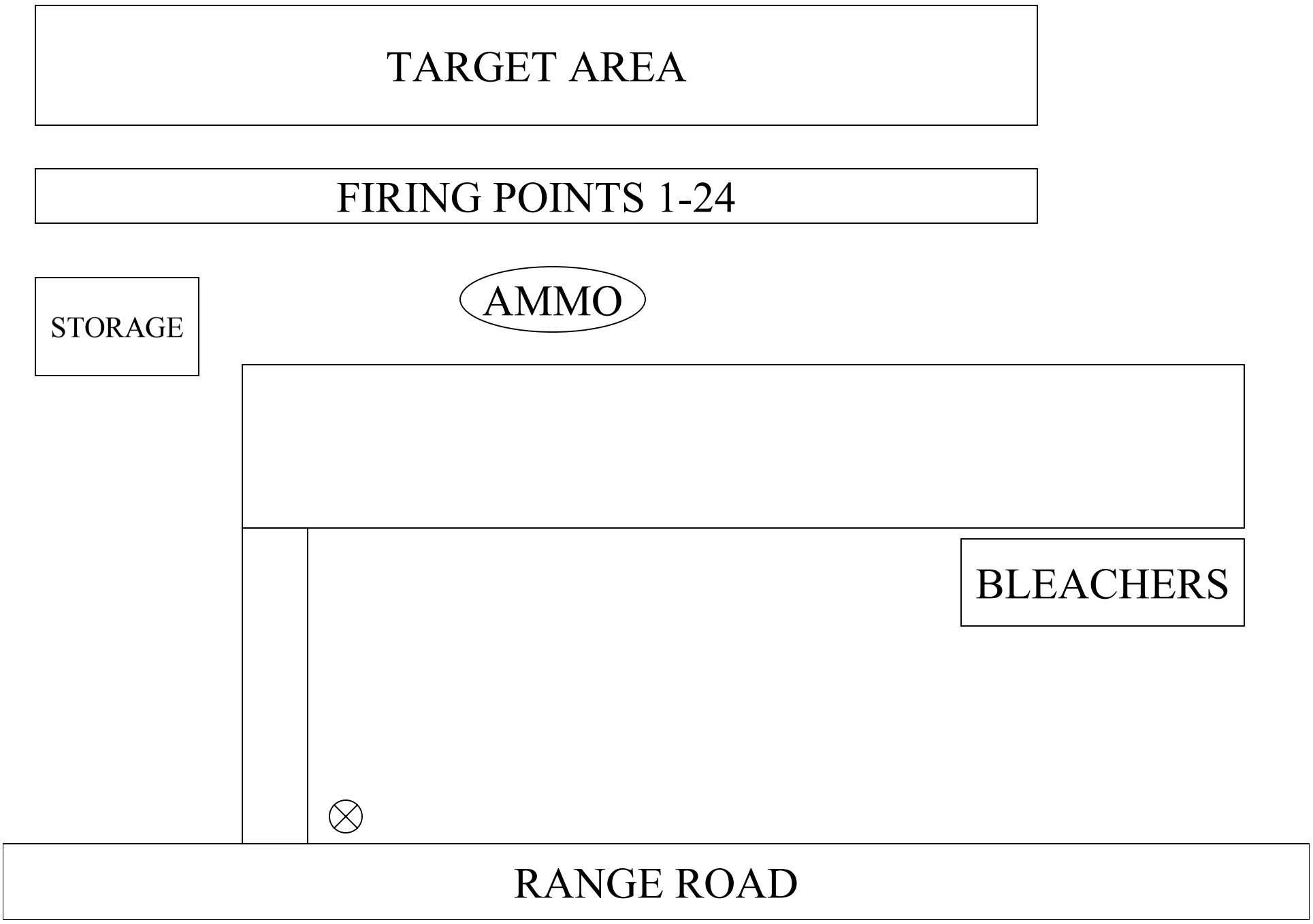
**NOTE: The RQC is fired on the same range as the CPQC; for a picture of the CPQC see FM 25-7.**

b. The CPQC stresses the fundamentals of quick fire. It is the final test of a soldier's proficiency and the basis for his marksmanship classification. After the soldier has completed the instructional practice firing he will shoot the CPQC for record. A detailed description of the CPQC tables, standards, and conduct of fire is in Appendix A.

**NOTE: The alternate pistol qualification course (APQC) or alternate revolver qualification course (ARQC) can be used for sustainment/ qualification if the CPQC is not available (see Appendix B and Appendix D).**

c. The military police firearms qualification course is a practical course of instruction for police firearms training (see FM 19-10).

RANGE 2


TARGET AREA
FIRING POINTS 1-24
STORAGE
AMMO
BLEACHERS
RANGE ROAD

Ft. Gordon Range Control
Headquarters
BLDG. 482
N. Range Road
Ft. Gordon, GA 30905

# RANGE 2

## .38 CAL, .45 CAL, 9MM
## QUALIFICATION RANGE

## Standing Operating Procedures (SOP)

1 JAN 02

# RANGE 2

## Administrative Procedures

**Physical Location**: Range 2 is physically located on the south side of N. Range Road.

**Grid location:** LS 87159670

**Type of Range:** Range 2 is primarily used for:
(1) Pistol qualification

**Types of Weapon & Ammunition Authorized**:
**Weapons:**
a. .38 cal pistol
b. .45 cal pistol
c. .9mm pistol
**Ammunition:**
a. .22 ball
b. .38 cal ball
c. .45 cal ball
d. 9mm ball

**Scheduling Range**: This range is scheduled through the Range Facility Management Scheduling System (RFMSS). RFMSS scheduling office is located at Bldg. 482, Range Control Headquarters (Tel. No. Office: (706) 791-9936/5008; DSN 780-9936/5008). All ranges are scheduled by your S3 utilizing a RFMSS unit customer account. Non-account users may schedule via memorandum signed by your unit Battalion Commander. Original memo must be turned into the Range Control (Operations NCO).

# RANGE 2

**OIC/RSO/MEDIC Range Check-in procedures:** OIC/RSO/MEDIC will show up at Range Control at the same time to sign for the range. They will provide the following documents upon arrival at Range Control:

**OIC:** Current Range certification card
**RSO:** Current Range certification card
**MEDIC:** Current Medical certification CLS (Combat Life Saver) or higher and Medical Aid bag.

**Day of Range**: OIC/RSO/MEDIC will arrive together to sign for the range. (Without these three and the proper documents the range will not be signed out)

**Range Firing Hours**: 0730-1630

**Range Availability**: Range 2 is available seven days a week. Weekend firing and extended range hours, must be requested during the RFMSS scheduling phase. Request permission as soon as possible if you need to go past 1630 to complete your firing.

**Other Training Activities**: **NO other training is authorized on the range.**

**Radio Communications**: The singars radio is the primary means to make radio checks with Range Control. You will receive two Motorola radios when you sign for the range. Radios must be used on Channel 1 and used only for communications with Range Control.

a. Request "hot" time
b. Make hourly radio checks every hour on the hour
c. Immediately "cease fire" anytime there is a problem on the range and contact Range Control.
d. Continuously monitor Range Control frequency
e. Request "cold" time
f. Request Range Control to come out and clear you off the Range
g. Use of the Radios for anything other than communicating with Range Control is strictly forbidden.

# RANGE 2

**Range Control Provides**:

a. PA system.
b. Red & White safety paddles for each line safety.
**c.** Metal rods for rodding soldiers on and of the range and firing line.
**d.** Ammunition point.

**Unit Provides**:

a. Two (2) 1-A:10B:C [dry chemical] fire extinguisher.
b. Combat lifesaver, dedicated emergency vehicle and medical aid bag.
c. Plastic trash bags, toilet paper
d. Hearing protection.
e. Drinking water.
f. TM and FM on all weapon systems being fired.
g. AR 385-63, Range & Training Safety [one copy in range book]
h. White method for designating safety personnel

**RECORD FIRE SCORECARDS:** The unit will provide its own record firer scorecards.

## RANGE OPERATIONS

**Surface Danger Zone (SDZ) Waiver Restrictions:**

# RANGE 2

**Ricochet Hazard:** It is of paramount importance that only authorized weapon systems, ammunition and target placement are utilized on this range. From time-to-time ball ammunition will ricochet off of the range starting grass or brush fires. Soldiers will be briefed on the safety factors and hazards of fighting brush fires. "Safety first, always."

**Target Placement:** The unit will put the target frames in place before firing begins and remove them once firing has been completed for the day.

**Firing Positions Authorized**:

**a**. **Standing**
**b.** **Kneeling**
d. **Crouch**
**e.** Prone

**Courses of Fire Authorized:** The following courses of fire are authorized:

**9mm/ .45cal / .38cal**

25 Meter Zero
Alternate Pistol Qualification

**Night Fire:** Night firing is not authorized on Range 2.

**Feedback Targets:**

**Other Uses**: No other uses authorized.

**Pyrotechnics Use**: Pyrotechnics are not authorized for use on the range.

# RANGE 2

**Special Range Planning Assistance**: Special range planning assistance is available from the Range Control staff. We will assist you in every way that we can to help make your training experience safe, realistic and effective. Pay us a visit - let's discuss your ideas.

## Basic Weapons Safety Procedures

The following basic weapons safety procedures will be observed:

a. When arriving and departing the range.
b. When arriving and departing the firing line.
c. While weapons are stacked with a guard posted within arms reach.

| **9mm / .45cal / .38cal** |
|---|
| Magazine removed |

## WEAPONS SAFETY BRIEFING

It is the responsibility of the unit OIC to ensure that the RSO conducts a "basic weapons safety briefing" for all personnel, as a group, upon arrival at the range. Also, provide a briefing for all persons arriving after the initial briefing has been given.

**PMI Instruction**: Behind the firing line PMI (weapon drills, individual instruction, manipulation of weapons, aiming of weapons) will be supervised by an NCO and conducted in designated PMI areas only.

# RANGE 2

**RTC Building:**

**Hearing Protection**: Appropriate hearing protection is required for all personnel, including workers and visitors, while within **50 meters** of the firing line.

**Tracer Ammunition:** No tracer ammunition will be used on this range. No exceptions.

**Standard Targets Provided**

| |
|---|
| Pistol silhouette placed into a target frame. |

**Open Pit Fires**: Open pit campfires are not allowed on or near the range.

# RANGE 2

**Gate Guard Requirements:** From time-to-time unauthorized persons or visitors may attempt to gain access to the range. The gate guard will be posted at all times while the range is occupied to aid in preventing the unauthorized access. At no time will the gate guard attempt to stop **RANGE CONTROL** or any **EMERGENCY** vehicle from gaining access to the range.

**Environmental Considerations**: Vehicle refueling operations will not be conducted on this range. All tactical vehicles will have a drip pan under the vehicle when it is parked. If a spill occurs report it to Range Control immediately. Bring plastic trash bags; take your trash with you. Using unit must clean the latrine prior to departing the range.

**Pyrotechnics, Blanks, CS Gas:** At **no time** will pyrotechnics, blanks, or CS gas be used on the range.

**Sleeping on Range:** Sleeping on the range is not allowed. It is pertinent that all soldiers stay awake and alert to help maintain a safe environment on the range.

**Animals on Range:** Unit mascots, such as **dogs**, are not allowed on the range.

**End of Firing Comments**: We encourage all **OICs** and **RSOs** to make constructive written comments on the second page of their **Range Checklist** at the completion of firing. Your input is valuable to this operation. Help us improve "your" range.

**Range Safety Violations**: It is not our intent to "find things wrong" with your range but rather to reduce and mitigate hazardous unsafe conditions. **OICs** and RSOs operating in an unsafe manner will cause their range to be closed - with the possibility of being decertified. All range safety violations will be forwarded to your higher headquarters and to the Garrison Commander through DPTM.

# RANGE 2

**What Does Unsafe Mean**: This can be explained quite simply: Operating your range in a manner that creates a dangerous situation for others; operating outside of weapons safety standards set forth in AR 385-63, USASC&FG Reg 210-21 this SOP and other applicable FM and TM guidelines.

**OIC/RSO/NCOIC Duties**: General duties of the unit **OIC**, **RSO**, and **NCOIC**. See AR 385-63, Chapter 4, 4-3, 4-5.

**OIC Duties**: The **OIC** [E7 or above] is responsible for activities that take place on all areas of the range not just the firing line. The **OIC** will stay on the range at all times.

**RSO Duties:** The RSO [**E6 or above**] is specifically responsible for weapons safety on all portions of the range.

**Line Safety NCO's:** [**E4-E5**] safety duties:
(1) Assist the **RSO** with firing line safety procedures.
(2) Observe and mitigate unsafe conditions on the firing line.
(3) Utilize red and white safety paddles for command and control.
(4) Rodding weapons on/off the range and firing line.
(5) Weapons safety checks.
(6) Bleacher safety.
(7) Providing safety related assistance for soldiers.

**NCOIC:** normally runs the range tower by announcing fire commands and taking directions from the **OIC**.

**Red Ammunition Amnesty Box**: Located in the motor pool at Range Control Headquarters.

This box is not intended for unit trash, brass or ammunition that is to be turned back into the ASP.

# RANGE 2

**Munitions:** Distribute small arms ammunition to troops only on the ready line or firing line. Cover all ammunition to protect it from the elements and direct rays of the sun. When any round or item of ammunition has malfunctioned further use of rounds or items will be suspended. The OIC/RSO will turn in the LOT #, DODIC, and number of unserviceable rounds to the Post Ammo Manager located at range control.

**Munitions Amnesty Turn in Policy**: Range Control will arrange Explosive Ordinance disposal support. Contact Range Control fire desk at 706-791-5005/5008 or by radio FM 4200. If you cannot contact Range Control, call the MP desk at 706-791-4380.

**Fire-Fighting in Training Areas:** Because fire potential is so great at Fort Gordon, all field units will be prepared to assist in fighting any fire which might occur. The OIC of firing issues an order to cease-fire, notify Range Control, move soldiers to a safe area, and take all commands from range control. At no time will soldiers enter the impact area to fight the fire, unless under the supervision of the fire department, or forestry. This is a year round requirement.

# RANGE 2

Upon discovering a fire outside the impact area, contact Range Control. The unit commander/OIC of an exercise will commit personnel and equipment available to fighting the fire, without soldiers being in any danger, and will continue to fight the fire until properly relieved.

**HIGH HAZARD IMPACT AREA**

At no time will soldiers enter into a high hazard impact area (Artillery Impact Area). A high hazard impact area is permanently designated within the training complex and used to contain sensitive high explosive ammunition and explosives and the resulting fragments, debris, and components. High hazard impact areas are normally established as part of dedicated impact areas where access is limited and strictly controlled due to the extreme hazard of DUD ordnance (i.e., 40mm HE and other highly sensitive ammunition and explosives.

IF YOU HAVE ANY QUESTIONS PERTAINING TO THIS SOP PLEASE CONTACT RANGE CONTROL AT 706-791-5005/5008. DSN 780-5005/5008.

## RANGE CONTROL MISSION STATEMENT

Our main goal and mission is to ensure that FGRCC ranges are operated safely, maintained in a good state of repair and at the same time offer friendly cooperative service to the military and all using units.

RAMDEO RAMTAHAL
MSG, USA
OIC, Range Control

# RANGE 2

Appendix A

## Duties of the OIC

1. Range 2 is not a difficult range to supervise or operate. Range Control staff will provide hands-on training and advice. The OIC operates and runs the range. The RSO supervises all activities on the firing line.

**Initial check-in procedures**:

a. Before coming to Range Control check with your company training NCO/battalion S3 to ensure that your unit has been scheduled for Range 2.

b. Check-in at Fort Gordon Range Control Headquarters no earlier than 0700 on the day of the range.
c. Read Range SOP and sign for all equipment needed for the operation of the range.

**Day of the Range:**

a. On the scheduled date go directly to the Range Control Headquarters and check-in with the range cadre.
b. Ensure that your radio operator conducts radio checks every hour on the hour (after you receive a hot time) and monitor Range Control frequency at all times.
c. Set up your range tower operation and ensure that the tower NCOIC is familiar with fire commands and qualification procedures.
d. Follow weapon qualification scoring procedures outlined in FM 23-35.
e. Ensure that the RSO provides a range safety briefing for all soldiers that occupy the range.
f. Ensure that the RSO provides a range safety briefing for all soldiers that occupy the range.
g. Request a “hot” time from Range Control. Notify Range Control anytime you “cease fire”, and request a “cold” time once firing has been completed.

# RANGE 2

## Duties of the RSO

1. The primary duties of the Range Safety Officer (RSO) are outlined in AR 385-63, Chapter 4, and this SOP. Primarily the RSO assists the OIC in maintaining and enforcing range safety standards not just on the firing line but all portions of the range.

Appendix B

## Road Guard Location & Duties

**Road Guard Duties**: One road guard post is located at the main entrance to the range. Road guard duties:

a. Stop unauthorized military and civilian personnel from entering the range.
b. Instruct all visitors to report to Range Control Headquarters.
c. **Do not** delay or attempt to stop Range Control personnel from entering the range – vehicles are clearly marked.

# Fort Gordon Range Operations
# Unit OIC/RSO Checklist

## RANGE SCHEDULING & PLANNING

❑ Contact your Bn S3 / training NCO and confirm: **(1)** Range location, **(2)** Weapon system, **(3)** Munitions type, **(4)** Firing hours, and **(5)** Range Contract (control) Number. **RFMSS Scheduling Office and info: 791-5005/5008**

❑ Obtain and review **FM's** and **TM's** on weapon systems to be supervised.

❑ Arrange for Combat Lifesaver (.50 cal and below), emergency vehicle w/ litter.

❑ **All Ranges require one certified (E7 or above for OIC duties), one certified E6 or above for RSO duties. Non-certified (E4 CPL or above) Line Safety NCOs.**

❑ Review **AR 385-63, Chapter 4**, Range Safety Duties and responsibilities for OIC / RSO / NCOIC, FG Regulation 210-21 section 2.

❑ Ensure that ammunition NCO orders and draws correct types of ammunition for your range. **Ensure that RFMSS reflects correct ammo type.**

## RANGE RECON & CHECK-IN – AT LEAST ONE DAY PRIOR TO TRAINING EVENT

❑ Recons will be coordinated at least 24 hours prior to the range.

❑ OIC, RSO, and Medic will **jointly** check-in with Range Control on the day of range.

❑ Read and research **(1)** Local range SOP.

❑ Do the following: **(1)** Conduct recon of range, training area and billeting facilities, **(2)** Request fire hazard conditions, **(3)** Confirm tracer usage, and authority to use pyrotechnics [CS gas] with Range Control, (4) Sign for Fire barrels.

❑ Sign for range, training area, and facilities. Make final coordination for any special targetry or other special needs.

❑ **Special Targetry Scenarios** require check-in and coordination at least 45 **days** in advance. Will target carpentry work be required**?**

## BEFORE DEPARTING FOR RANGE

❑ Test your SINGARS communications system (calibrated - in the clear) one-day before you go to the range.

❑ Ensure that your ammunition-laden vehicles are properly placard.

❑ See **AR 385-63** - **TM 9-1300-206** explosives safety criteria for training operations on firing ranges.

❑ Assemble and test space heaters at unit rear. Follow winterized fuel requirements. GP medium tents can be placed on ranges.

❑ Obtain two **1-A:10B:C** (dry chemical) fire extinguishers, water cans and shovels for fire fighting.

**ON DAY OF RANGE** *** If you need to cancel your range please call Range Scheduling Office 791-5005/5008**

❑ On scheduled day the OIC, RSO, and Medic, must sign in at Range Control before occupation of the range.

❑ Establish communications with Range Control:

**42.000 in the clear**

❑ Brief soldiers on range safety procedures, and (Red Box) ammunition amnesty program. Brief road guards.

❑ When you are ready to fire call Range Control and ask for a **"HOT" time.** Ensure red range flag(s) are hoisted and down range [SDZ] is clear before firing.

**DURING FIRING - REQUIRED DA FORM 1594 ENTRIES**

❑Monitor the radio at all times, make hourly radio checks with Range Control, RTO.

❑ Immediately Notify , RTO of any unusual incidents such as: **(1)** Civilian encroachment on range, **(2)** Accidents, **(3)** Injuries, **(4)** Malfunctioning weapons & munitions, **(5)** Rounds off the range, and **(6)** UXO **(7)** RSO monitors range safety, **(8)** Make DA Form 1594 entries.

**COMPLETION OF FIRING**

❑ Call RTO for **"COLD"** time. Request range clearance instructions. Take down red range flag(s)

❑ Provide this information to RTO: **(1)** number and types of rounds fired, **(2)** Number of Duds or misfires, and **(3)** Number of personnel trained. Don't depart range until properly cleared by Range Control supervisory personnel. Please provide written comments on back of RUDF.

❑ Police all portions of the firing line, gun positions, battle positions, and concurrent training areas.

❑ Please provide Range Control with ***written*** [positive or negative] comments. Let us know about unsafe conditions or damaged facilities.

# FORT GORDON RANGE OPERATIONS TELEPHONE NUMBERS

**RANGE MANAGEMENT SECTION**
**BLDG. #482 RANGE ROAD**

| | |
|---|---|
| Range Operations Manager, MSG Ramtahal | 791-5005 |

**RANGE CONTROL CENTER**
**BLDG # 482 RANGE ROAD, FORT GORDON**

| | |
|---|---|
| Range Operations/ Scheduling, SSG Hill | 791-9936 |
| Installation Ammo Manager SGT Vasquez | 791-9937 |
| Integrated Training Area Management (ITAM), Mr Perkinson | 791-5008 |
| Maintenance NCOIC, SSG Pagan | 791-9934 |

# RANGE UTILIZATION DATA FORM (RUDF)

## . Fort Gordon Range Control

Range 1 Range 2 - Range 4 - **Range 5** - Range 6

Range 7 - **Range 8** - Range 9 **Range 10** - **Range 11**

**Range 14** - **Range 15** - **Range 16**

## Demo Pit

**1** Range Date(s):_____Thru:_____
month / day / 20__ month / day / 20__

Hours scheduled From: 0730 To:1630 Extension granted **Yes** **No**

Unit:_____

Telephone:_____ **# Vehicles: ____ # Personnel:_____**

**2** I have read and understand the Range Control SOP, and Range Safety requirements pertaining to this range.

OIC: _____ _____ _____
last name / first/ initial / rank Last 4 signature

**OIC:** Has a signed Risk Assessment in hand: Yes___ _____
Signature

RSO: _____ _____ _____
last name / first / initial / rank Last 4 signature

**3** **Circle authorized weapon systems that you will be firing:**

Small Arms Weapons:
9MM - M9 - M16/M4 - M24 - M60 - M240B/G - M249 SAW
**BFV (7.62 Coax)- 25mm – M2 50cal**
**List other weapons here:**

**Subcaliber, Inert, TPT :**
**MARK-19 (TPT) - M203 (TPT) - AT-4 (9mm subcal) - Mortars (subcal)**
**TOW (inert)**

**High explosives: (Check with Range Control officer for current restrictions)**
**MARK-19 (HE) - M18 Claymore (HE) - Hand grenades (HE) - Tow (HE)**
**AT-4 (HE) - Artillery (HE) - Mortars (HE)**
**Demolitions: Restrited to no more than (one) 25 lb. charge at a time.**

## 4 Provide special scenario information:

Special fire & maneuver (M31A1 targetry) YES NO Approved by: _____
Moving targets YES NO Type:_____ Approved by: _____
Pyrotechnics / Demo YES NO :_____ Approved by: _____
Tracer Ammunition Approved YES NO Approved by: _____

## 5 Pre-firing Checklist :

☐Commo check (42:000) with RC, RTO ☐Road guards posted ☐Down range cleared
☐TMs & FMs on range ☐Two [1-A:10B:C] fire extinquishers ☐Hearing protection ☐RSO safety briefing provided for soldiers, Line safety NCO's, and Ammo NCO.
☐Targets aligned according to SOP diagram ☐ Combat lifesaver /MEDIC with up-to-date aid bad, litter, and emergency vehicle on site
Hot time: _____

## 6 Post-firing Checklist ?

Type and # of rounds fired: 1) _____ 2) _____ 3) _____
**No. # of Personnel fired: _____**

**Were there any misfires on the range YES NO**
**Were there any DUDS on the Range? Was EOD called? _____**
☐Target stands removed ☐Firing points raked ☐Range policed ☐Latrine cleaned
☐Range flag down ☐End commo with RC, RTO ☐Cleared by RC, "Cold" time:_____

# After Action Comments

**6 Please circle subject matter that you are concerned about. Provide a written commentary of the problem, situation, and incident:**
**Scheduling - Condition of range -**

**Comments**:_____
_____
_____
Attach written commentary of problem areas:

**7 Were there any range safety incidents?: YES NO**

**Accident - Injury – Range Cadre issues - Weapons safety - Ammunition malfunctions - Targetry malfunctions - Firing positions - Vehicle / driver safety - Brush fires - EOD incidents**

**Other situations or occurrences:**_____
**Description:**_____
_____
_____